



IDENTIFYING ACADEMIC READING STRATEGIES IN A MULTILINGUAL CONTEXT

Dissertation submitted in fulfilment of the requirements to obtain the
PhD-degree in Linguistics at Ghent University, Belgium.

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DECLARATION

“I declare that *Identifying Academic Reading Strategies in a Multilingual Context* is my own work, that has never been presented for obtaining any degree or in another context and that it constitutes the result of my personal research. This Dissertation is submitted in fulfilment of the requirements to obtain the PhD degree in Linguistics, at Ghent University, Faculty of Arts and Philosophy”

Ghent - Belgium, June 2016.

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KEYWORDS

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Multilingualism

Tertiary Education

Cognition

Metacognition

Think Aloud Methodology

ABSTRACT

In this thesis I explore the complexity of FL (Foreign Language) reading through qualitatively and quantitatively analysing the forms, ways, and mechanisms applied by adult readers at tertiary university education level to construct meaning in an ESP/EAP (English for Specific and Academic Purposes) multilingual educational context at the Eduardo Mondlane University (UEM), in Mozambique.

I attempt to answer to the following research questions (a) What do learners and users of English in an EAP context resort to construct meaning from text?, (b) Are reading strategies used effectively by these learners to attain comprehension? and (c) Are these learners aware of their use of reading strategies? I identify reading strategies using a holistic eclectic research methodology that includes a *Needs Analysis*, a *Reading Comprehension Test* (IELTS), *Questionnaires* and a *Think aloud Method* (TAM). This holistic approach anchors partially on Bernhardt's 2005 compensatory model of reading in a second language, which calls for answers to a '50% unexplained variance', some of which I would like to resolve with this study.

My study revealed that the participants are taught reading strategies formally but with the use of old outdated textbooks in the undergraduate courses at UEM, which showed to be characterized by a restrictedness to word and sentence level analysis (West, 1998), (ii) a descriptive yet not explanatory nature (Robinson, 1991), and (iii) and a pattern in which a long non-authentic specialist reading passage begins most lessons/units followed by exercises (Dudley-Evans & St. John, 1998). Further, I have revealed a lack of collaboration among various concerned stakeholders at UEM, including students, subject teachers, institutional administrators and EAP teachers to find answers to the traits revolving around course design and its improvement (Tajino, James, & Kijimac, 2005). I also discovered that language practitioners devalued the central idea posited by a Needs Analysis, and this critical significant incident has helped us to see things in a new way and thus develop our understanding (Kerfoot and Winberg, 1997). All of this clearly calls for a structured analysis of the entire system at UEM.

The reading comprehension test (RCT) revealed a gloomy picture where participants failed to construe meaning adequately, especially with respect to higher order reading skills. Nevertheless

the questionnaires and the think aloud results showed evident awareness of reading strategies involving a chief use of metacognitive strategies, and a high frequency use of cognitive and supply strategies.

I therefore believe that I have holistically and synergistically brought to light some explanations and suggestions of certain variables that could be used to fill in the gaps of Bernhardt's (2005, 2011) three dimensional model and as such part of the '50% unexplained variance'. I have concluded that in the population studied there is both self-reported and evident use of a battery of reading strategies, given that all participants (weak and strong) used (almost) all reading strategies, be it in different frequencies than L1 readers, and also used those known to be unique for biliterate and multilingual FL readers, i.e. code switching, translation and the use of cognates, and a novel supply strategy, i.e. sight-translation. Nevertheless, there does not seem to be an apparent strong relationship between these strategies and text comprehension and task performance. Clearly when for the participants trust in the target language failed, their most familiar reading language (Portuguese) was used to resolve conflicting information, to predict and to confirm meaning, or to question oneself. This suggested a sign of lack of an adequate L2 language threshold or, perhaps the 'accustomed' use of a familiar means, Portuguese, as the communication and comprehension vehicle. In conclusion, their poor reading comprehension test results could be blamed upon a lack of L2 linguistic knowledge, of L2 higher order comprehension skills and of knowledge of text structure that triggers a strategy use rather different from L1 readers.

June, 2016

SAMENVATTING

In dit proefschrift ga ik op onderzoek naar de complexiteit van het lezen in een vreemde taal door op een kwalitatieve en kwantitatieve manier de vormen, manieren en mechanismen te analyseren die toegepast worden door volwassen lezers in tertiair, universitair onderwijs om betekenis te construeren in een meertalige onderwijskundige context van ESP/EAP (English for Specific/Academic Purposes) aan de Eduardo Mondlane Universiteit (UEM) in Mozambique.

Ik tracht volgende onderzoeksvragen te beantwoorden: (a) Waar maken leerders en gebruikers van het Engels in een EAP context gebruik van om tekstbetekenis te construeren?, (b) Worden leesstrategieën door deze lezers effectief toegepast om begrip te bereiken?, (c) Zijn deze leerders zich bewust van hun gebruik van leesstrategieën? Ik identificeer leesstrategieën aan de hand van een holistische, eclectische onderzoeksmethodologie en een “Think Aloud Method” (TAM). Deze holistische aanpak is gedeeltelijk gebaseerd op Bernhardt’s compensatorisch model van lezen in een tweede taal (2005), waarin vragen gesteld worden over de “50% onverklaarde variatie” die ik gedeeltelijk zou willen beantwoorden in dit onderzoek.

Mijn onderzoek toont aan dat deelnemers formeel onderwezen worden wat betreft leesstrategieën, maar dat dit gebeurt aan de hand van gedateerde handboeken in bachelor-cursussen aan UEM, die bleken gekarakteriseerd te kunnen worden door (i) hun beperking tot analyse op woord- en zinsniveau (West, 1998), (ii) hun beschrijvend, maar niet verklarend karakter (Robinson, 1991), en (iii) een patroon waarbij de meeste lessen/units beginnen met een niet-authentieke gespecialiseerde leestekst gevolgd door oefeningen (Dudley-Evans & St. John, 1998). Verder heb ik een gebrek aan UEM kunnen vaststellen aan samenwerking tussen de verschillende belanghebbenden, inclusief studenten, vakdocenten, institutionele administratoren en EAP docenten om antwoorden te vinden gerelateerd aan eigenschappen die verband houden met cursusontwerp en –verbetering (Tajinoá, James é Kijimac, 2005). Ik heb ook kunnen vaststellen dat taalmedewerkers afbreuk doen aan het centrale idee van een Nodenanalyse en dit significant en kritisch incident heeft ons geholpen om de dingen op een nieuwe manier te bekijken en zo ons begrip te ontwikkelen (Kerfoot & Winberg, 1997). Het is duidelijk dat dit alles vraagt om een gestructureerde analyse van het hele systeem aan UEM.

De test Begrijpend Lezen vertoonde een deprimerend beeld aangezien deelnemers er niet in slaagden de betekenis adequaat te construeren, in het bijzonder met betrekking tot leesvaardigheden van een hogere orde. Niettemin toonden de vragenlijsten en de think aloud resultaten een duidelijk bewustzijn van leesstrategieën waarbij vooral gebruik gemaakt wordt van metacognitieve strategieën naast een hoge frequentie van cognitieve en ondersteunende strategieën.

Bijgevolg ben ik ervan overtuigd dat ik op een holistische en synergetische manier enkele verklaringen heb gegeven en suggesties heb gedaan van bepaalde variabelen die hiaten in Bernhardt (2005, 2011) 's driedimensionaal model zouden kunnen vullen om op die manier een partiële verklaring te bieden voor de “50% onverklaarde variatie”. Ik heb geconcludeerd dat er in de bestudeerde populatie zowel zelf-gerapporteerd als vast te stellen gebruik was van een batterij van leesstrategieën, gezien het feit dat alle participanten (zowel sterke als zwakke) (bijna) alle leesstrategieën gebruikten, zij het met verschillende frequenties dan eerstetaal-lezers, en dat zij leesstrategieën gebruikten die uniek zijn voor twee- en meertalige vreemdetaal-lezers, i.e., code-switching, vertaling en het gebruik van cognaten, en een nieuwe ondersteunende strategie, i.e. vertaling op zicht. Niettemin blijkt er geen significante correlatie te zijn tussen deze strategieën en tekstbegrip en prestatie. Het is duidelijk dat wanneer de participanten hun vertrouwen in de doeltaal verliezen, ze de hen meest bekende leestaal (het Portugees) gebruikten om conflicterende informatie op te lossen, om te voorspellen en betekenis te confirmeren, of om zichzelf vragen te stellen. Dit suggereerde een gebrek aan een adequaat niveau van tweede taal of, misschien, een terugvallen op een meer gebruikelijke aanwending van een bekend middel, het Portugees, als medium van communicatie en begrip. Tot besluit konden hun slechte resultaten op de test Begrijpend Lezen toegeschreven worden aan een gebrek aan linguïstische kennis van de tweede taal, van begripsvaardigheden van een hogere orde in de tweede taal, en van een kennis van tekststructuren die een strategiegebruik veroorzaakte die behoorlijk verschillend is van die van eerstetaal-lezers.

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ABBREVIATIONS

ARM022 - Subject 6 AAM

BA/BS/MA/MS/MD – Bachelor of Arts/Bachelor of Science/Master of Science/Master of Medicine Sciences

BSG027 - Subject 3 BBS

CAE - Cambridge Advanced Exam

CALP - Cognitive Academic Language Proficiency concept

CASM - the Cognitive Aspects of Survey Methodology

CMH003 - Subject 5 CFM

CMT021 - Subject 1 CVM

CNP - Communicative Needs Processor

COG - Cognitive (strategies/skills)

CSD - Communicative Syllabus Design

CUP - Cambridge University Press

DA - Discourse *Analysis*

DIT026 - Subject 9 DIT

DNCP3 - Did not complete part 3

DNR - Did not respond

DNS - Did not state their first language.

DVDs – Digital Video Disc

EAP – English for Academic Purposes

ECA - Escola de Comunicação e Artes

EFL – English as Foreign Language

EGP - English for General Purposes

ELT – English Language teaching

ESL – English as Second Language

ESL – English as Second Language

ESP – English for Specific Purposes

FCE - First Certificate Exam

FL - Foreign Language

FLCS – Faculty of Arts and Social Sciences

GA - *Genre Analysis*

HEI - Higher Education Institution

IELTS – International English language Test Sample

IELTS - International English Language Testing System

INDE – Instituto Nacional de Desenvolvimento da Educação

INE - The National Institute of Statistics of Mozambique

JMM028 - Subject 4 JMM

L1 – First language (mother tongue)

L2 – Second Language

L3 - Third Language

L4 – Fourth Language

M/C - Multiple Choice

MARSI - Metacognitive-Awareness- of- Reading- Strategies- Inventory

MDD017 - Subject 7 MAD

MET – Metacognitive (strategies /skills)

MINED - Ministry of Education and Culture

MOZ – Mozambique (Republic of Mozambique)

MRM004 - Subject 2 MR

MRS – Metacognitive Reading Strategies

N – Sample size

NAT - Nationality

OBS- Observation

PET - Preliminary English Test

Port. – Portuguese language

PSA - The *Present situation analysis*

RCT - Reading Comprehension Test

RCT- COMPREHENSION TEST

RCT - Reading Comprehension Test

RQ#1 – Response to question No. 1

RQ#2 – Response to question No. 2

RQ#3 – Response to question No. 3

SLA - Second Language Acquisition

SORS – *Survey- of- Reading- Strategies*

SUP – Support or Supply reading strategies

TAM - Think Aloud Method(s)

TAP - Think Aloud Protocols

TAVP - Think Aloud Verbal Protocols

TOEFL - Teaching of English as Foreign Language

TOEFL – Test of English as a Foreign Language

TSA - The Target situation Analysis

UEM – Universidade Eduardo Mondlane

US L1 – United States First Language

US L2 - United States Second Language

UWC RSA – The University of the Western Cape, South Africa

V 3 – Version 3

V2 -VERSION 2

YIT024 - Subject 8 YIT

CHAPTER 1 INTRODUCTION

1.1 Introduction

In the 21st century English is the language of academics, scientific research, extension activities, and many other fields of work which require accuracy and precision. In this context one could argue that English has acquired a ‘destructive’ role relative to other languages, given that, on an international scale, minority and majority languages are being brushed aside in favour of English, particularly in scientific, research and business communication, as well as in the field of technology. This is evident in the media, music industry, book production and many other communication fields.

In Higher Education, particularly at Universities, English (as L2, FL, EAP-ESP) is in high demand by professional academics and by students. Thus there is a need for courses to assist students to attain a reasonably high proficiency in English in academic discourse and academic literacy, both of which go under the umbrella of English for Academic Purposes (EAP) (Balfour, 2002; Pityana, 2005). There also is a need for courses for Non-native English-speaking academics and students to provide them with a sufficiently high level of proficiency in the language specific to academe for them to be able to deliver lectures, participate in meetings, present at conferences, and conduct and publish research (Hyland, 2006). Despite the provision of such courses at universities, there is evidence of insufficient progress in proficiency in the academic literacy in English of EAL learners at tertiary/higher education level in African universities such as those in Mozambique. The reasons for this apparent lack of progress are not clear.

As has been clearly stated by scholars in the field of second language acquisition, learners need to develop academic language and literacy proficiency in addition to content-area knowledge in order to succeed at tertiary level (Garcia, 2000; Freeman & Freeman, 2003; Koda, 2005). Academic reading strategies and skills are essential if an academic or student is to be able to fully comprehend and engage with academic and research articles/texts: the primary purpose of the academic degree courses at the Eduardo Mondlane University (UEM). However, whether this purpose is explicit or inferred, the *raison d’être* for the development of EAP, and its place in university curricula, needs to be clearly defined, based on recent research and on curriculum

developments that are appropriate to a multilingual context such as ours, which includes a variety of Bantu languages (such as CiNyungwe, Cisena, CiRonga, etc), and Portuguese as lingua franca as well as English, the latter two being non-native or ‘foreign languages’ for most students. The need to understand what *multiple* implies in terms of the *linguistic* nature of an array of languages in formulating a clear definition of a multilingual context is crucial for understanding the implications of such a complex context for curriculum planners and for students. If we do not heed Bernhardt’s (2003) warning against the tendency of researchers, curriculum planners and policy makers to ‘conflate’ the diversity of these languages we will ‘continue to be without the significant force the term multilingual should have’ (Bernhardt, 2003:113-114) when attempting to develop curricula that may be deemed adequate for such complex second language acquisition (SLA) and FL contexts as the one at UEM. Block (2003:32) borrows from and analyses the SLA definitions of Gass and Selinker (2001), and Mitchell and Myles (1998), in an attempt to clearly describe the multilingual educational context as being ‘the common term [...] referring to the learning of another language after the native language has been learned [formally or not]’. Thus, in this linguistically complex context there is the need for an in-depth understanding of what is currently happening at UEM in terms of students developing their proficiency in English, EAP in particular.

As a support basis for the present study is a Needs Analysis study in order to gain insights into the current status of the teaching and learning of English as a Foreign Language (including English for Specific and Academic Purposes: EFL, ESP and EAP), at Eduardo Mondlane University (UEM). The Needs Analysis study will also attempt an identification and classification of the reading skills, and strategies students are taught through the use of the Nucleus Series and First Certificate textbooks in these courses, and the ways in which these strategies help, or do not help, the students construe meaning in English. Different reading taxonomies are used to identify and classify the various reading skills and strategies, as set out by Weir (1984), Munby (1978), Sheorey & Mokhtari (2001), Garcia (2000), Freeman and Freeman (2003), Koda (2005) and Errey & Li (2008).

In the course of the study, questions are posed, such as (i) what textbooks are used in the different faculties to provide ESP-EAP within this EFL environment? (ii) how appropriate or dated are such textbooks in terms of current reading research? and (iii) do the contents of the textbooks cater for the teaching of adequate reading skills and strategies to enable EFL

learners/readers to cope with authentic texts written in English, and to adequately construct meaning in terms of their learning process? The EFL learners in the present study are students at the EMU who have learnt English as a Foreign Language (FL), more specifically as a 3rd or even a 4th language during their formal schooling, and are in their first year of study. They are competent in Portuguese, which is the official language in the Republic of Mozambique. Although Portuguese is also referred to as the *lingua franca* of the country, it is not the native and/or L1 of most people in the country, including the participants in the study. The majority of the population speaks a local indigenous language (one of a group of Bantu languages, for example CiMankonde, CiNyanja, CiShangane, CiRonga, CiMakua, CiNdau, etc) as a first language, and Portuguese is formally taught and informally learned in school. English is only officially taught from late primary school (grade 6), although nowadays there are schools, mostly private, that start as early as grade 1.

The methodology in the current mixed-approach study includes a *Needs Analysis* (a methodology I used to gain insights into the types of teaching materials used for EAP, and their relevance to students' needs), and the identification and classification of the various reading strategies and skills used by students, using a variety of reading taxonomies. A reading comprehension test and a questionnaire were administered to both students and language teachers to gain insights into the **How** and the **What**- trait, in order to improve the long standing and yet to be reviewed and/or reformulated courses – one of the central purposes of carrying out a Needs Analysis. The methodology includes the use of a Reading Comprehension Test (RCT) to attest reading comprehension level (quantitatively) and *Think Alouds Methods* to identify reading comprehension strategies used by participants to construe meaning from test at the said level of education and attempt to observe the frequency and level of effective use of reading skills and strategies by participants, both while reading and during *task completion*, (a set of questions to test comprehension). Chapter 3 provides further details of this research methodology.

The field of research in reading comprehension and reading comprehension strategies in a multilingual context has for the most part evolved from L1 studies, and has not yet been fully explored, or explored as a field on its own, rather than being a research site for comparative

purposes. Bernhardt (2005:133) stresses this aspect when she reports on earlier research: “... certainly much of the research of the 1980s could be in part characterized as the slavish replication of studies conducted in first language”. She describes the use of L1 conceptual frameworks and research tools by L2 researchers: “... similarly, second language scholars routinely adopted first language conceptual frameworks for conducting research with second language learners in studies that were characterized as psycholinguistic in nature and used either miscue or cloze as analytic tools”. In this context, in my study I have reviewed and used some of those L2 researchers who used L1 frameworks such as Carrell (1983), Bhatia, (1984), Clarke (1979, 1980), Cziko (1978), Devine (1981, 1987), Groebel (1980), Rigg (1978) and Coady (1979). The reason for this is a concern not to ‘overadopt schema theory’, as Bernhardt (2005:133) cautions, where assumptions are made about the second language reading process based “on first language literacy research without fully exploring the underlying dimensions of either the first or second language process”.

A multilingual context such as ours at UEM, with its complex array of languages exemplified above, provides fertile ground for carrying out the present study without necessarily following existing reading comprehension theories developed in L1 studies and transferred to L2/FL. Therefore, without dismissing or devaluing these, and not entirely shying away from them, I have in fact, used many of those propositions suggested by several L1, L2 and FL studies on reading in general, and reading literacy and reading comprehension in particular, that are relevant to a multilingual Foreign Language context such as mine. An additional and central conceptual and theoretical underpinning for the present study is Bernhardt’s 2005 compensatory model of second language reading. Further grounds are sourced out from the Bernhardt’s 2005 expanded work which, in her second volume on second-language reading *Understanding Advanced Second-language Reading*, published in 2011, provided further insights on the field and redesigned the compensatory model of second language reading.

One of main aims of the present study is to understand reading comprehension and for that a reading comprehension test is used and wise it is to recall Bernhardt’s words on assessment of reading, where she says in so many words that the idea of assessment ‘evokes panic on the part of students afraid they will not meet a set of external standards, disgust on the part of teachers claiming to lose valuable instructional time due to administering excessive numbers of

assessments, and frustration on the part of the public hoping that schooling meets its intentions’(2011:102).

This, coupled with the lack thereof of studies in language literacy of college students and the need for academic courses above mentioned, should not however make us lose sight of the positive side of assessing reading (an issue discussed along the thesis); assessing reading is of utmost importance for it allows for the acknowledgement of key fundamental aspects of teaching and that need to be understood, i.e. teachers and students must know whether students are able to do what they are being taught to do.... whether teachers are employing instructional strategies that bring about student learning’(Bernhardt, 2011:102).

Thus it is important to stress that my study is not bound by the limits of any one theory, or specific theories, but is instead an adoption of a **conceive-search-collect-analyse-(re)formulate-suggest** project. I believe that this study will accommodate and be informed by the above-mentioned theories, and hopefully generate novel findings and innovative recommendations that will be of value to the multilingual/FL field. For this reason, rather than being an attempt to dismiss those theoretical concept/frameworks that are valid for similar types of research within a multilingual context, this study advocates a mixed approach methodology in order to afford me a wider manoeuvring space and not limit me to one theory and/or methodological framework. In other words, I am to some extent departing from, or adapting, pre-conceived and potentially limiting ideas or theories to generate a number of novel ideas that are specific to this context, and not necessarily within the borders of established theory.

Thus in choosing not to pursue one line of theory I have devoted time and space to thinking carefully about the research questions and, given the context of the research, the type of respondents and the research gap in the L2/FL field of reading comprehension, place my research in the ‘50% unexplained variance’ area as suggested by Bernhardt’s (2005) and 2011 expansion work on compensatory reading models, which are far from static, having evolved from her 2000 ‘A statement of theoretical distribution of reading factors’ model (Bernhardt, 2000:803).

Bernhardt (2000) claims that the comprehension strategies, engagement, content and domain knowledge, interest, motivation, etc. of readers are variables still to be thoroughly comprehended

and thus my study is an attempt to find answers to this question of variables specifically related to the field of text comprehension and reading strategies, and to readers' use and awareness of these in a foreign language multilingual context. However, to embark on this quest it is necessary to start from the beginning, i.e. the nature of the research on reading in L2 and or FL in the past and the factors that drove its development to the current stage, which, I would argue, is in need of further development.

Bernhardt's 2005 review reveals a model of second language reading that illustrates the evolution of research and thought 'influenced extensively by schema theory and psycholinguistics' of the 1970s and 1980s, and 'research and thought on interdependence of language and literacy hypothesis versus the threshold hypothesis' models developed from the 1990s onwards. In her review she synthesizes the perspectives of reading in L2, 'acknowledging the necessary components of a contemporary L2 reading model, including L1 literacy level, L2 knowledge level' and 'recognizing the interactions of background knowledge, processing strategies, vocabulary level, relationships between and among various cognate and non-cognate L1s and L2s'. Her review goes further in examining 'emerging L1/L2 readers in addition to adult L2 readers' (Bernhardt, 2005:133). My study will make extensive use of this model, a compensatory processing conceptualization that recognizes that a reader's knowledge sources act in an interactive, synergistic fashion rather than in an additive one. Impediments to conducting research in reading as L2 and related fields include assessing subjects in languages unknown to the researchers and the assessment of L1 literacy in an array of languages, one valid proposition for my study. These limitations are taken on account and are kept in mind throughout my study. I also explore the role and implications of an array of unknown and unstudied languages, i.e. Bantu languages (L1 for most of the participants in the multilingual context), and compare what goes on in foreign language reading with the reading process in L1, particularly in EAP.

Bernhardt (2011:100) has expanded the above on a dimension where her arguments and subsequent 'corollaries are admittedly rooted in reasoned, best personal judgment based on a compensatory view of second-language reading. How second-language readers learn to assert and withhold judgments about upper-level, complicated text; how they intellectualize across the boundaries of linguistic knowledge, knowledge of literary conventions, and appropriate cultural knowledge that is uncoded, subtle, and invisible' (...) 'and how they build a legitimate,

defensible interpretation remain unexplored.’ As she asserts, there is a critical need to conquer an unexplored portion of a territory so that progress in second-language reading research is made in the years to come.

I do not propose to replicate neither Bernhardt’s 2005 or 2011 reviews, but the compensatory model of second language reading (see Figures 1 and 2 below) is central to, and relates to the results of my study. In Chapter 2 I discuss in detail the concepts and processes of reading, and subsequent chapters draw from some of the works Bernhardt (2005) reviews, for example, Bhatia, 1984; Clarke, 1979, 1980; Cziko, 1978; Devine, 1981, 1987; Elley, 1984; Groebel, 1980; Rigg, 1978; Coady, 1979; Carrell, 1983, 1984a, 1987; Carrell and Wallace, 1983; Johnson, 1981, 1982; Mohammed and Swales, 1984, among others, when discussing reading and the developments in research that led to a more comprehensive understanding of reading in a FL, particularly in an EAP context. Along the lines of Bernhardt’s 2005 model, part of my discussions in this chapter, and throughout the study, have resulted in interpretations and conclusions that show the presence of a trend in the field that initially in the 1970s and 1980s led scholars to believe that the second language issue was a “problem of syntax” or of “prior knowledge”, or of problems related to word-level and phonological issues. The classical quantitative research methodologies and techniques used during this period, which involved looking at variables that were dependent on measures, ‘such as time of voice onset and reading aloud’, were eventually overridden by the 1990s holistic examinations of second language reading that looked at how prior knowledge and related aspects were being used by readers. Bernhardt (2005:134) points out that this research indicated that there was a high probability that a reader who ‘had all appropriate and relevant knowledge’ was failing to use it and/or at times, had ‘no apparent relevant or appropriate prior knowledge’ and ‘didn’t need it’.

Issues of reader performance, the interaction of word recognition, syntax, and vocabulary with each other, and with prior knowledge, were also seen by these researchers to affect reading and a reader’s performance. Most of these issues, summed up and systematized from the studies mentioned above, resulted in the ‘first’ of Bernhardt’s models in her 1991 work: *The Holistic Developmental Depiction of the Interaction of Variables in the Second Language Reading Process* that plotted ‘sets of variable curves set against error rates using qualitative data’. This

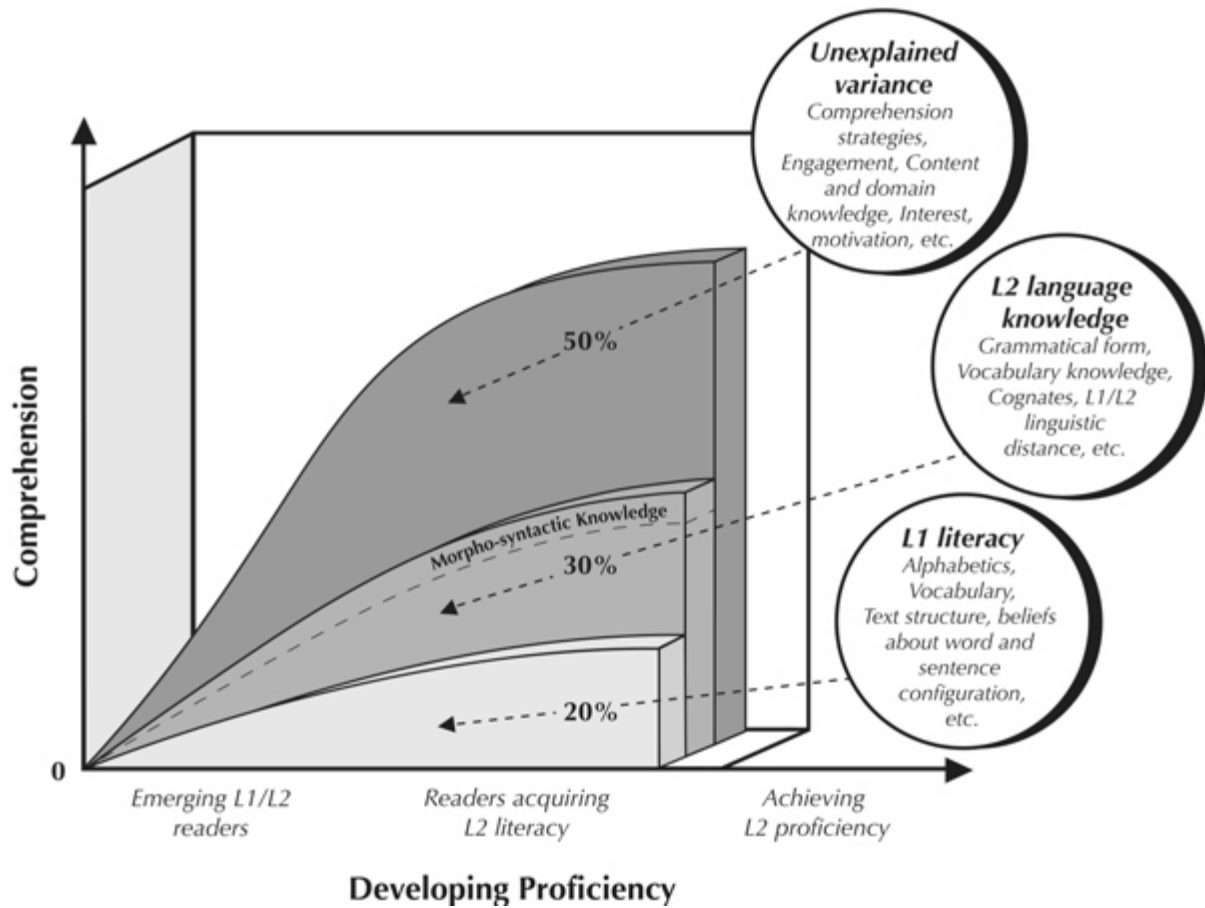
model aided in the interpretation of results in the field of reading as a second language process, such as word recognition and phonological issues involved in recognizing and understanding words from a more fair, rapid and accurate way by researchers in L2 reading, with L2 readers reading in a relatively short period of time. The limitations of this model were related to the classic bottom-up features, i.e. syntax was not as predictable and ‘the function of syntax in second language reading (the more you learn the worse you get) is not intuitively obvious, yet it is consistent with other observed “U-shaped” patterns in the second language acquisition literature (Ellis, 1986, in Bernhardt, 2005:135). One of Bernhardt’s (2005:135) critiques of such models was that ‘syntax appeared to function at an instance of low error rate at the early levels of proficiency’ and then ‘a complicating factor causing an increased error rate before levelling off’. Due to some of these shortcomings (I will not mention all), the need to further develop this model led to the evolution of the compensatory model. This development, according to Bernhardt (2005:135), owed much to the realization that the ‘development of understanding within particular texts followed no predictable pattern other than the fact that once readers made a decision about text content they did not go back to question that decision’, i.e. readers, as Bernhardt (2005:135) puts it, did not seem to psycholinguistically guess their way through a text, testing hypotheses; they made ‘an initial decision: they guessed their way through that decision rather than through the text’, and this was also the case with background knowledge (schemata), which they used consciously and voluntarily. Here it is worth noting that readers who appeared not to have appropriate background knowledge still achieved a high level of comprehension. Twenty years of research in the field has very clearly shown that the variables involved in the reading process were ‘significantly more complicated than the set involved in the general L1 reading, the general L1 literacy research literature’ (Bernhardt, 2005:135).

Bernhardt (2005) lists various additional factors coming into play in L2 reading, such as grammar and the orthographic nature of a particular language, sociocultural reader variables, sociocultural text variables, and other additional influences (Bernhardt, 2005:135). I argue that all of these need to be packed onto a *satisfactory* (my emphasis) integrated reading model. Further developments in the field fuelled the ‘rather unidimensional nature of theories and studies’ in reading research. Issues concerning text-based features have been raised in reading research from the 1990s, such as *text structure* (Riley, 1993; Tang, 1992; Yano, Long, & Ross, 1994;), *syntax* (Berkemeyer, 1994; Takahashi & Roitblatt, 1994), and *word knowledge* (Chun &

Plass, 1996; DeBot, Paribakht, & Wesche, 1997; Hulstijn, 1993; Kim, 1995; Knight, 1994; Leffa, 1992; Laufer & Hadar, 1997; Luppescu & Day, 1993; Parry, 1991; Zimmerman, 1997), and at the time remained areas of investigation, as did conceptual features, such as *affect* (Chi, 1995; Davis, 1992; Davis, Caron-Gorell, Kline, & Hsieh, 1992; Kramsch & Nolden, 1994). In addition ‘phonological aspects of reading’ and their connections with other language modalities such as writing (Carrell & Connor, 1991; Hedgcock & Atkinson, 1993; Lund, 1991) were explored, but, as Bernhardt (2005:135-6) argues, ‘all of these investigations evolved as univariate studies without contributing to theory development’, while the works by Alderson (1984), Alderson and Urquhart (1984) ‘consistently highlighted the need to examine the question of whether the field of second language reading should focus principally on the *reading* part of the proposition or on the *language* part of the proposition’. This issue is central to my study. I discussed these issues extensively in a study related to my Master’s program, especially those linked with reading in a FL, and with text comprehension and transference of reading skills; I concluded, along with Goodman (1973), that reading was not a language problem but a reading one, and that it was evident that the participants in that study were transferring reading skills and reading knowledge across languages. The progress in the field of reading research stemming from Alderson’s (1984) work in particular lent the field a different dimension which fed into most of the developing understandings of reading in L2 and in FL during the 1990s.

Yet no development is ever finite, and this progress in reading research in the early 1990s, charted in Bernhardt’s (2005) review, ironically still had an obvious variable missing: the role of first language literacy in the second language learning and reading process. Despite some substantial discussion of the social variables surrounding first language literacy (which I have posited elsewhere in this thesis, and shown how this helped construct a solid basis for developments in foreign language reading research), there remains an endless list of questions to be answered concerning reading in L2/FL. My study will attempt to answer this using Bernhardt’s 2005 compensatory model of reading presented below.

Figure 1. A compensatory model of second language reading.



Source: Bernhardt (2005:140)

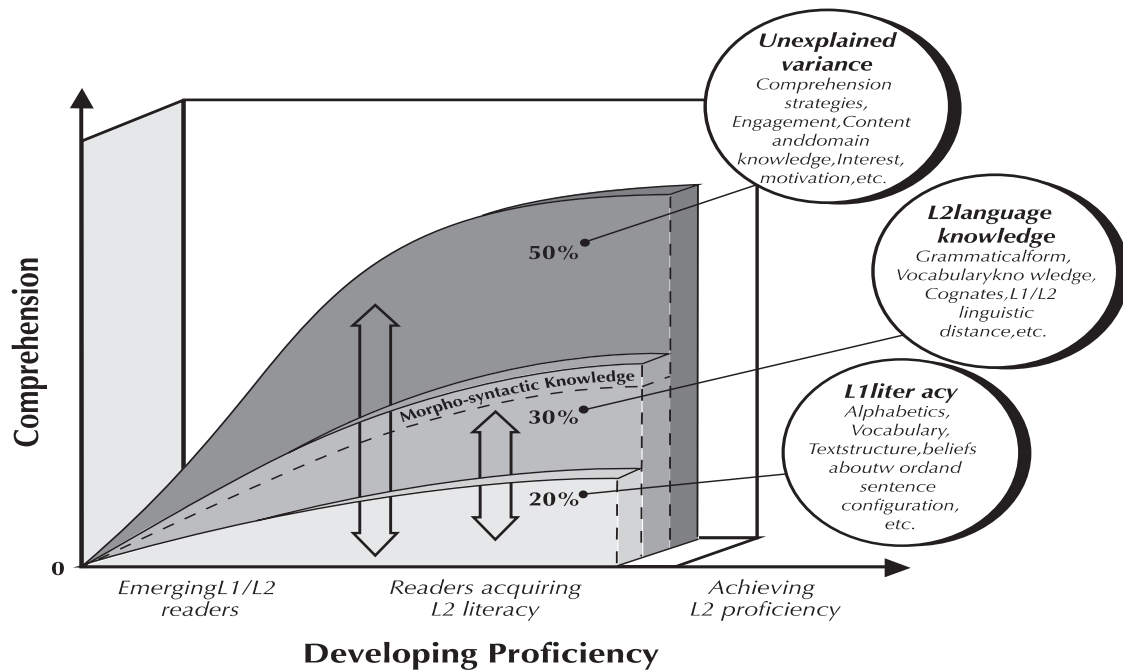
Issues pertaining to L2 [EFL] language knowledge, such as grammatical form, syntactic parsing, cognates, the linguistic relationship and/or relationship between L1 and L2, and other aspects, could have been dealt with in much more depth by many of the scholars investigating second language and/or foreign language. As hypothesized in recent past, the likes of Bernhardt (1999, 2000) and Alderson (1984, 2000) advanced that text comprehension is not necessarily a language problem, but possibly a matter of how the reader assesses that comprehension, i.e. her or his use of appropriate strategies and/or skills. I would wonder this to be case of my participants. The variables in reading comprehension and reading comprehension strategies are my focus of interest in the present study. Care should be taken when deciding which particular variables to research, and which issues to interrogate so that one does not move away from defined borders

and encounter difficulties in providing answers to the set of queries which Bernhardt (2005:134) has characterized as the search for ‘a smoking gun, a Holy Grail’. Bernhardt herself has committedly taken on this endeavour, whether a search or not for a smoking gun, and further developed her model, pointing out that scholars in the field of reading, including reading in a foreign language, are yet to understand fully how readers in second language operate at all levels. She emphasises the crucial importance of this research:

... more significantly, however, is that we know even less about how to bring readers to sophisticated, advanced uses of literacy in a second language. Indeed, many learners achieve such sophistication, but the overwhelming majority appears not to. Further, little published evidence exists about the learners who do reach fluency in the reading and processing of sophisticated text. Meeting the challenges set forth by these new circumstances is absolutely critical for the research community (2011:viii).

The developments in her 2011 work show an additional element in the compensatory model of second language reading, one that shows a more complex relationship between the three dimensions (graphically represented by two-way arrows: see Figure 2 below): the emerging L1/L2 readers area shows a relationship that crosses over from the first dimension to the third, and the area regarding the readers’ acquisition of L2 literacy traverses the first and the second dimensions, to denote the coexistence between the different variables in the 3 dimensions, explained or not, which can, if explained and theorized, be used to demystify reading in a second language and related aspects. Bernhardt thus stresses that “to understand the notion of compensation is to grasp the critical point that these factors are *not* independent of one another; in fact, they are even *more than dependent*, they are inextricably intertwined because they are used by readers simultaneously in a compensatory fashion. One factor does not operate without the other in second-language reading contexts. (2011:63).

Figure 2. Revised Compensatory Model of Second Language Reading



Source: Performance Predictions in Bernhardt's 2011:38 (2005 and 2010)

Bernhardt's (2011) review of 200 works on reading as a second language, which entailed the compilation of the items in the data base, and in which she applied criteria such as explicitly stated theme, for example, strategy use, vocabulary knowledge, phonological processing, etc., as well as statistics indicating the number and type of subjects, texts read by the subjects, languages involved (first and second), measures of first-language literacy and/or second-language proficiency level, still calls for the need to more fully understand reading in a second (foreign) language and she proposes that "isolating learners' efforts at understanding, and searching within those efforts for features that cause comprehension breakdown, are the keys to enhanced, effective instruction and, ultimately, to better and more sophisticated theory development" (Bernhardt, 2011: 38-9).

The present study, based in an environment with an array of different Bantu (CiMankonde,

CiNyanja, CiShangane, CiRonga, EMakhwua, CiNdau and many more) and Roman and Germanic languages (Portuguese and English), and bearing in mind the intertwined factors mentioned by Bernhardt (2011), thus seeks to isolate and understand some of the variables in the English Foreign Language reading processes of adult learners in a multilingual postcolonial and post-modern tertiary context in Mozambique. Canagarajah refers to an aspect worthy of noting here given the connection with my post-colonial context – the issue of multiliteracies. As per him, ‘multiliteracies is becoming important in popular discourse in the context of post-modern cultural developments.... term refers to new ways of reading and writing that involve a mixture of modalities, symbol systems, and languages.’ He goes even further to assert that the reader has to process different types of texts, like a typical Web page, which ‘may involve still photographs, moving images (video clips), and audio recording in addition to written language (2003:156)’.

Given the different types of texts and the processing of a variety of modalities of communication, the readers, a language learner, as Canagarajah (2003:156) alerts us, will also have

‘to interpret different sign-systems, such as icons and images, in addition to words. Furthermore, texts from languages as diverse as French and Arabic may be found in a site that is primarily in English. Different discourses could also be mixed — as legalese, medical terminology, and statistical descriptions, besides everyday conversational discourse. (2003:156)

The reader or learner in my context is exposed to the above types of reading and has to use them in the learning process to his/her avail, yet, perhaps, efficiency and efficacy may be hampered by their lack of competence the target language in the tertiary education, English.

1.2 Problem statement: The teaching of English as a Foreign Language (EFL) and English for Specific Purposes (ESP) or English for Academic Purposes (EAP) at UEM

The Eduardo Mondlane University runs degree courses in several fields and these have English as a subject or credit course. The main aim of the English course is to enhance the reading capability of the students, among other sub-skills, in the reading of authentic academic texts, research articles, journals, etc. Coming from the pre-university level of education (grade 12, the

final level at the top of the secondary school chain), these students are faced with a totally different and somewhat strange environment, where the purpose of developing proficiency in English switches from a general purpose to a specifically academic one. My experience of more than 20 years as a language teacher, 15 of which as a lecturer at the UEM, has taught me that these students on average do not have the appropriate language skills to access information adequately through proper use of reading strategies/skills in the FL. This scenario may be due to a lack of appropriate formal training in the usage of reading skills/strategies at lower levels of their education as well as in the use of a foreign language; the latter applies both to secondary and higher education. I also suspect that the very old and outdated language textbooks used in the university, and the lack of an appropriate policy to guide the provision of English, to be the prime culprits. Thus the need to understand the reading process itself and the particularities of the process of foreign language learners within their 'real' environment, their difficulties and successes, is crucial. Only by gaining a thorough understanding of this will we be able to formulate appropriate reading programs and adopt new approaches to developing students' reading proficiency. This understanding should be based on how they go about reading texts in practical terms, and thus helping them become better EAP readers.

It should be noted that the basic English language credit course design at the UEM has remained virtually untouched and stagnant for many years and this has perpetuated the use of very old, dated textbooks, the Nucleus series, with a strong emphasis on register analysis but operating largely only at word and sentence level and not beyond any of these levels. At some time in the past (15 to 20 years ago) textbooks such as these were subjected to a review by scholars in the language learning field, and the approach informing their production has been criticized in the research literature with respect to its restriction to word and sentence level analysis (West, 1998), its descriptive yet non-explanatory nature (Robinson, 1991), and the fact that most materials were produced under the banner of register analysis. The text materials typically followed a pattern in which a long non-authentic specialist reading passage opened most lessons/units and was followed by exercises of a particular type (Dudley-Evans & St. John, 1998).

The reasons for a level of formal Needs Analysis in this context, and my motivations for conducting this, are set out in detail in Chapter 4 (Study Phase I: Needs Analysis at UEM) in

terms of arriving at informed and sound decisions about the goals and trajectory of an ESP-EAP course and the materials to be used. A formal Needs Analysis is also defined in detail in Chapter 4.

1.3. General overview

This study centres on EFL learners/readers¹ who are users of academic articles for research or authentic scientific texts, i.e. books, journals, websites etc., and investigate the particular skills and/or strategies that may help them engage with and understand text in an EAP context. It also investigates whether such learners apply adequate reading strategies whilst reading texts in the foreign language (English) and use them effectively to construe meaning. The aim of this study is to identify reading strategies/skills EFL-EAP readers apply when dealing with EAP texts in order to construct meaning and, from these findings, to develop a teaching-learning approach. The foundation for such identification is built upon a Needs Analysis of the textbooks used at the university and from which I identify and classify the various reading strategies using the different taxonomies described and discussed in Chapter 2.

A considerable body of research into reading in general has ignored the specifics of what happens during the reading process in the field of EFL-EAP reading, especially that of multilingual learners of the foreign language, who use more than just the target and the additional languages. Where research in EFL-EAP has been done, most of it has involved either mother tongue/Native speakers or Second Language learners, i.e. L1 and L2, and been mostly conducted in a process of trying to understand children and adolescents' literacy acquisition and skills usage at primary and secondary or pre-university levels. The quest to link the relationship between reading development in a second language and general second-language development, as Bernhardt (2011, viii) puts it, shows evidence of “little documented cross-over in the research fields”. She goes even further in asserting that the

data in second-language acquisition have remained confined principally to evidence about speaking or writing. There are some obvious reasons: both speaking and writing are productive and are, therefore, visible. Reading comprehension, much in contrast, is

¹ The subjects we intend to study would have learnt English as a Foreign Language, more specifically as a 3rd or even a 4th language, in secondary schools and university in Mozambique.

relatively invisible and can only be inferred, never directly accountable for processes in the way that one can hear or see that a particular linguistic form has been integrated or not. Perhaps most importantly is that reading has not been included in second-language acquisition (SLA) theory. (2011, viii)

Hence the need for a theory on reading in second language that accounts for all factors involved. However, I would suggest that the results from such studies have to some extent helped in the understanding of many of the issues concerning the teaching of EFL-EAP and the teaching of reading in a foreign language in an ESP or EAP context. This is corroborated in most of Alderson's works (1984, 2000), Koda's (2005) and Bernhardt's (2005, 2011).

Research on the differences between EFL and L1 reading has tended to be limited in its scope and generality, despite its potential (Brown & Haynes, 1985), although I describe and discuss developments which have taken place in this field in the course of the present study. While my recent literature review shows a growing trend of studies involving Chinese college students, the Chinese-English relationship is not applicable to Roman and Germanic languages, of which English is one. In addition scripts of the two languages are completely different. Very few studies involving Portuguese L1 or FL speakers were found during the course of the present study. However, I still believe that the above observation is a pertinent one and I focus on it in terms of parts of my rationale.

Thus I believe that the current study will contribute to the field of research in reading, given the fact that, during my search for answers to the main research question, I realized that very little research has been done, or models developed, to support those EAP-EFL learners circumscribed by a particular kind of multilingual educational context such as that at UEM.

The term multilingual context as used in this study has been defined and discussed in detail above in terms of the complex nature of the context in which more than one language in addition to the mother tongue of the students at UEM is used. Also discussed was the tendency of researchers, designers of curricula, and policy makers not to 'confront the conflation' of this linguistic complexity and the implications of this for teaching and learning (Bernhardt, 2003:113; Block, 2003). Further these researchers make reference to the learning of a third or a

fourth language, as is the case in the multilingual context in Mozambique, where most native Mozambicans learn and/or acquire a non-native language, or languages, after they have acquired the native language, i.e. at a later stage they acquire two rather than one additional language, Portuguese and English. These languages within the multilingual context, SLA for the authors cited earlier, and upon whose definitions Block (2003) built, and FL and L2 contexts as described by Block (2003:48-51) ‘encompass both languages of wider communication encountered within the local region or community (for example the work place, [school, university] or the media), and truly foreign languages [i.e. French in Mozambican Secondary Schools], which have no immediate local uses or speakers’ (Mitchell & Myles, 1998, in Block, 2003:32). In this study all of these aspects of a complex multilingual context are taken into account, a context where the learners, users of a foreign language (English), are also speakers of more than one language - Portuguese - the lingua franca, and the main medium of instruction at tertiary level, English (EFL-EAP/ESP and possibly others), as well as Bantu languages such as CiMankonde, CiNyanja, CiXangane, CirRonga, CiMakua, CiNdau, etc. These learners, users of language, come from a multiplicity of uneven and heterogeneous educational backgrounds, and suffer all the pressures and constraints associated with an educational system that lacks adequate resources, both human and material, and which often results in learners’ inadequate fluency level and usage of the language.

1.4. Context leading to this research

Some studies (Cummins, 1979; Alderson, 1984) have suggested that the reader - a language user - has to attain a certain level of proficiency in the foreign language in order to comprehend a printed or written message in that language, and that a reader’s background knowledge is key to text comprehension. In the context of this study it is reasonable to assume that the majority of the EAP-EFL learners do not lack background knowledge in their specific academic fields, yet they do not appear to have adequate strategies and skills and/or are unable to apply or engage these adequately to access this knowledge more effectively. Thus, in any academic or EAP course the focus should not be on the acquisition of knowledge but on guiding students to engage with and comprehend such knowledge effectively in terms of the purpose of reading academic texts. One of the problems related to this situation is that most academic texts in the

different academic disciplines have not been translated or published locally, i.e. in the Portuguese language or any other locally written or spoken language. Most of this academic literature is imported into the country, and would for students thus be in a foreign language, i.e. English. Given that lecturers, researchers, scholars, and, in particular, students, need to access academic knowledge, knowing how to, and having the ability to do so through more efficient and effective reading, is of the utmost importance for an in-depth understanding of their academic fields and of the world outside these. Yet as pointed out above, the learners may have inadequate fluency levels and this may hinder their capacity to construe meaning adequately and I suspect influences from non-formally taught mother tongue (Bantu languages, CiMankonde, CiNyanja, CiXangane, CiRonga, CiMakua, CiNdau and many others) skills which are probably transferred (using translation, codeswitching) and may interfere in meaning construction given the informal status.

1.4.1 Theories of reading

In embarking on the quest to gain insight into these complex issues, any researcher needs to understand both the general and specific characteristics of the reading research field, including earlier and current research. In the late sixties Stauffer (1969) reviewed a considerable number of definitions of the reading process and reported universal agreement among the 'authorities' on one point only: Comprehension is an invariant condition for reading (Stauffer, 1969, cited in Robbeck & Wallace, 1990). In other words, in order to comprehend one has to be able to first extract meaning from a printed or written message. A year later Carroll (1970:296) was to go on to argue that a reader must be equipped with this essential skill to be able to get meaning from any type of text and that such skill or skills can only be obtained through some sort of formal reading instruction. The essential question arising from this concerned the specific nature of these skills/strategies that needed to be taught formally to students, and the nature of the teaching approach or method, pointing to the importance of further research into these skills or strategies and from there to develop an effective tool to assist them in developing them.

Holmes (1970), quoted in Robbeck and Wallace, (1990:26), who believed that improvement in teaching depends on a scientific understanding of the reading process, devoted most of his

professional life to answering what he considered the basic questions: Just how complex is this ability we call reading? What are its dimensions? How do they operate? In the literature there have been three types of approaches to this, and reading models such bottom-up, top-down and interactive approaches came to light. For instance, Smith (1978) claimed that reading is a matter of "decoding" printed symbols, an act of communication in which information is transferred from a transmitter to a receiver, whether the reader is a scholar deciphering a medieval text or a child identifying a single letter on a blackboard (Smith, 1971:12). The idea behind this is encapsulated in the bottom-up (or *data-driven* or *text-based*) theory (Gough, 1972; LaBerge & Samuels, 1974), a theory which explains reading as the:

... putting together [of] small units (letters, letter clusters) to form words; words are then combined into the larger units of phrases and sentences to arrive at textual meaning. Beyond the level of decoding, reading comprehension also is seen as a hierarchy of subskills, such as locating details, recognizing main ideas, and so forth, which combine into larger units to provide the meaning of a text. (Quigley & Paul 1984:104).

The other reading model, the top-down theory, was exposed in the sixties and seventies by Goodman (1967) and Smith (1978). Goodman (1967) saw reading *as a psycholinguistic guessing game*:

Skill in reading is not seen as involving greater precision but more accurate guesses at the unfolding meaning of a text based on better techniques for sampling the text, greater control over language structure, broadened experiences and increased conceptual development. Increasing skill and speed in reading are accompanied by decreasing use of graphic cues. (Quigley & Paul 1984:105).

Smith (1978) also emphasises prediction when reading, rather than it being a *psycholinguistic guessing game*, and emphasises the role of *background knowledge, context and comprehension*:

When we are reading with comprehension, we must not be bothering short-term memory with letters or even words at all. We avoid overloading short-term memory by paying minimal attention to all the unnecessary detail of print. (...) We can make short-term memory look much more efficient if we can organize small detail into larger units. This organization is sometimes referred to as *chunking*. (Smith 1978:39-

40, my emphasis).

The interactive theory (Stanovich, 1980) emphasises two aspects of the model, which are of primary importance: (1) the central role of background knowledge in constructing meaning from text, and (2) a number of dynamic processing strategies ranging from the specific aspects of decoding print to the metacognitive strategies of consciously monitoring one's processing of information. Comprehension proceeds from the top-down as well as from the bottom-up, that is, it is driven by pre-existing concepts as well as by the data from the text. Briefly, Stanovich and West (1979) provided evidence for a model of the reading process based on the general idea that poor readers, who, they argue, lack automated GPC rules, try to enrich the information they have to work with when they read by making *more* use of 'top-down' information than good readers do. Thus, poor readers rely more on cues and clues derived from their general knowledge and knowledge of language to 'fill in' gaps left by poor reading. Because this strategy is prone to error, takes longer and demands a good deal of conscious effort, the poor reader reads slowly and understands less of what he or she reads than does the good reader (Wood, Wood, Griffiths & Howarth, 1986:103). When considering the above traits of reading models and reading comprehension, the idea of transmitting knowledge from a text to a reader in the process of decoding symbols is an important one if one associates this with the reading process as a psycholinguistic process, in the course of which the reader (a language user) reconstructs as best s/he can a message which has been encoded by a writer as a graphic display. One returns to the question of what exactly this language user does to (re)construct such a message, which in turn gives rise to the question which is central to this thesis: Are the skills/strategies the same in every language/context? This process of '*thought-getting*', and relating the reading process to a context, was beginning to be explored in the early part of the 20th century (Klapper, 1916:32). Researchers at that time were beginning to see it as entailing recalling and manipulating the concepts one possesses rather than simply constructing meaning from printed symbols at which one looks (McKee, 1937), and that the process needs to be understood in accordance with any given context.

By the late 1970s and early 1980s research into reading had established that users of a language apply different styles and/or strategies to achieve comprehension of texts. The predisposition of a

learner and/or reader to use a particular learning strategy when attending, perceiving, and thinking to achieve this goal is known as cognitive style (Entwistle & Ramsden, 1983, in Robbeck & Wallace, 1990:119). The *strategies* used by a reader or learner, sometimes referred to as ‘approaches’ or ‘orientations’, are the learner’s intentional plans for selecting and combining schema-based skills into routines. While Weir (1984) compiled a long list of typical reading strategies, the question arises as to whether learners/readers use any of them, and if they do, which strategies and exactly how do they use them? It is my intention to identify the reading strategies of FL English language users within the particular context of the current study.

In addition to the specific strategies a reader employs, the role that a reader's purpose plays in the reading and comprehension process is an important consideration. Most theories (1970-1990s) fail to take this into account. This makes it difficult for current research to determine the full range of beliefs regarding this area. It would appear that a common-sense approach simply ignores the reader’s purpose and that, due to this absence, one could be led to hypothesize that purpose has no influence upon a reader’s construction of meaning. In other words, a text possesses a precise meaning, although many theorists would argue against a single meaning, which readers need to ‘extract’ from a text, irrespective of whether their purpose is to read the text for pleasure or to get information from it. If one accepts that it is important to consider the role the reader’s purpose plays in the comprehension process, the question arises as to what roles skills/strategies play to serve or enhance this reader’s purpose, or vice versa?

Rosenblatt (1978), for example, suggests that a reader creates a text different from the text s/he sees on paper or that is in his/her mind (i.e. that the text read is made up of the reader’s prior knowledge, her/his linguistic data pool, etc.). As Cairney (1990) puts it, the meaning in this new text is greater than the sum of the parts within the reader's head or on the page. The questions that arise from these descriptions of making meaning from a text, are: How does this process of text construction occur? Are certain reading skills/strategies responsible for this or is it merely the reading capacity and/or knowledge gained by the reader/learner during formal instruction that brings about this text? Or a combination of these?

1.4.2 Reading in a foreign language

Jolly (1978) claims that learners' success in reading a text in a foreign language depends most importantly upon their first language reading ability rather than upon their level of English proficiency, if this level is identifiable. Jolly (1978) argues that reading in a foreign language requires the transferability of old skills, not the learning of new ones, while Coady (1979) sees foreign language reading as a reading problem and not a language problem. Goodman (1973), who put forward the 'reading universal hypothesis', supports Coady's (1979) view, although indirectly. Goodman's (1973) view is strengthened by the work in EFL of scholars like Rigg (1977) but does not provide an overall holistic picture of the reading process. What matters, perhaps is to try and understand whether the reading ability helps with what has been suggested by Rosenblatt (1978), i.e. a reader creates a text different from the text s/he sees on paper or that in his/her mind, and or seeks answers elsewhere. If Goodman's (1973) 'reading universal hypothesis' claim is valid, it would be true to say that learners would be expected to transfer their reading abilities across languages as suggested by Jolly (1978). Clarke (1979), who claims that the reading process follows much the same lines in all languages, supports these assumptions of the transferability of reading ability across languages by arguing that 'if the reading process is basically the same in all languages we would logically expect good native readers to maintain their advantages over poor readers in the second language' (Clarke, 1979, cited in Alderson, 1984:3). On the other hand, a study by Potter (1982) seems to lend support to Cowan's (1976) claim that reading strategies may be language specific. In his study Potter (1982) investigated whether good and poor readers use different strategies when making use of the linguistic context, and in particular, whether good readers make better use of the context by applying a better strategy, or whether good readers do so simply because of their superior or more extensive prior knowledge. However, the results of the study failed to show whether good readers used better strategies than poor readers. It also failed to draw conclusions as to whether good readers used the same strategies as those used by poor readers but more efficiently and skilfully. However, parts of the results of the experiment support the hypothesis that good readers make better use of the context than poor readers. Since the study could not show the use of a unique individualized strategy by either the good or the poor reader, it could be speculated that both good and poor readers used strategies that are similar, and thus specific to the language used in the experiment.

If this speculation is found to be valid, then some support for Cowan's (1976) claim can be found in the light of Potter's (1982) results. The main flaw in Potter's study is that he did not compare his results with those of bilingual subjects, i.e. speakers of both the target language and the first language. However, in a study comparing L1 and L2 readers' use of strategies, Cziko (1978) argued that:

... a relatively high level of competence in a language is a prerequisite to the ability to use discourse constraints as a source of information in reading, [thus making it possible for the reader to comprehend most, if not all the message contained in a text]. (Cziko, 1978:484).

The implications of Clarke's (1979) work on the transferability of reading ability across languages are, as Alderson puts it, 'that there is no direct transfer of ability or strategies across languages, and that foreign language competence is required before transfer can occur' (Alderson, 1984:17).

These studies would indicate the necessity for a foreign language reader to attain a certain level of proficiency in the foreign language in order to make effective use of the devices such as stylistic, text structure, cues, italics, discourse markers, drawings, etc. contained in a text. Once that level is attained by such a reader, it can be assumed that s/he will become a fluent foreign language/EAP reader since s/he will be able to use not only the discourse markers more effectively, but also transfer his/her first language reading ability to the foreign language. This, as summarised by Alderson (1984), enables us to arrive at a statement of the relationship between reading ability and general language ability in foreign language reading. Alderson (1984) predicted that:

... foreign language readers will not be able to read as well in the foreign language as in their first language until they have reached a threshold level of competence in that foreign language. (Alderson, 1984:19).

In this context, Cummins (1979) points out that the threshold hypothesis cannot be defined in absolute terms but is likely to vary depending on the demands being made on the reader. Alderson (1984) also discusses this issue and mentions Cummins's work. For more demanding tasks a high level of the threshold might be necessary. Cummins (1979) also points to the fact that the threshold is likely to vary according to the stage of cognitive development of the

learner/reader. In other words, if a learner has a high level of conceptual knowledge, then a lower threshold level is likely to be required of the reader when s/he is performing a task than the threshold level of another learner whose level of conceptual knowledge is lower (Ulijn, 1978). From this the question arises as to whether this level of language competence, i.e. level of threshold, possibly clearly or precisely measurable, plays an important/indispensable role in the reading process.

Recent studies, particularly those in the EAP field, have yielded sufficient evidence to suggest that reading in a foreign language encompasses the need for learners/students to develop academic language proficiency in addition to content-area knowledge for academic reading strategies to succeed, and for students to attain comprehension of research articles/texts and other reading materials in their specific fields of study (Garcia, 2000; Freeman & Freeman, 2003; Koda, 2005). Further studies (Nezhad, 2006; Sheorey & Baboczky, 2008; Zhang & Wu, 2009) have shown reading in a foreign language to manifest a positive relationship, except in a very few cases, between the use of reading skills/strategies and reading comprehension. From these findings we can conclude a positive relationship between fluent and/or successful reading and a high use of reading strategies to construe meaning in an EFL context, as is the case in an L1 context. For example, Nezhad's 2006 study has shown an indisputable relationship between meta-cognitive awareness of reading strategies and their performance in reading tests of successful readers, and students who self-rate their reading abilities in English as strong have a higher mean on the global strategies subscale. Although weak readers use meta-cognitive strategies more frequently, both good and weak readers are aware of and use the same strategies. Thus, according to Nezhad's, (2006) study, both weak and fluent readers employ bottom-up strategies in similar ways, the major difference being the greater use of top-down strategies by good readers resulting in a higher tendency to achieve the overall meaning of the text more successfully than do poor readers (as in Sheorey & Baboczky, 2008). With Chinese students for instance, Zhang and Wu (2009) reported the use of three categories of strategies (global, support, and problem solving) at a high-frequency level where high-proficiency students outperformed the intermediate and low-proficiency students in two categories of reading strategies (global and problem solving) but no statistically significant difference was found among the three categories of students when using support strategies to construe meaning from text. A statistically

significant and positive relationship between Iranian students' overall and Global and Problem Solving reading strategy use and their reading comprehension test (RCT) scores was reported by Karbalaee (2013).

Studies in the relationship between metacognitive reading strategies and the use of reading strategies by first and second-language readers of English (Feng & Mokhtary, 1998; Calero-Breckheimer & Goetz, 1993; Sheorey & Mokhtari, 2001) showed that successful learners/readers use greater numbers of cognitive and meta-cognitive reading strategies, a number of very important reading strategies (setting the purpose for reading, prediction, summarising, questioning, use of text structural features, self-monitoring and so on) which these readers use to plan, control and evaluate their own understanding of text, i.e. strategies that regulate their own reading process and their processing of meaning. In addition, studies listed below have shown that proficient university students show the use of wide-ranging supply strategies while reading, and that proficient bilingual and biliterate readers in foreign language settings use supply strategies such as code mixing, translation, and use of cognates for more efficient and accurate construction of meaning, and that such strategies are believed to be particularly useful for reading in a second language (Jimenez et al., 1995, 1996; Feng & Mokhtari, 1998; Calero-Breckheimer & Goetz, 1993; Sheorey & Mokhtari, 2001; Mokhtari & Reichard, 2004; Schoonen et al., 1998; Stevenson et al., 2003; Pang, 2008). Thus there is an indisputable relationship between meta-cognitive awareness of reading strategies and the performance of successful readers in foreign language contexts when tested on reading (Nezhad, 2006); this aspect is further developed in Chapters 6 and 7.

1.4.3 Aims and research questions

The aim of the present study is to identify the reading challenges specific to reading academic texts in a foreign language, particularly in postcolonial contexts where the colonizing language was not English. In this context I aim to identify the specific reading strategies/skills readers apply to resolve reading problems. Three research questions regarding skills/strategies have been formulated:

- (a) What kinds of strategies do learners and users of English in an EAP context resort to in order to construct meaning from text?
- (b) To what extent are these reading skills/strategies used effectively, i.e. do these learners/readers using these strategies attain their envisaged goal – comprehension of a text or texts?
- (c) To what extent are these learners/readers aware of their own use of such reading skills/strategies?

As was mentioned in the introduction to this chapter, these skills and/or strategies are identified by means of a Needs Analysis study of EAP textbooks used at the university by teachers of EAP and ESP courses and by the participants. The results of this analysis inform the data to answer the above questions.

1.5. The structure of the study

The present study is divided into three phases, namely study phases 1, 2 and 3. Phase one involves the identification of the kinds of reading skills the textbooks purport to teach students. This is done using a Needs Analysis and administering a questionnaire to participants who are students and language practitioners at the university. Phase two involves the administration of a reading comprehension test to participants to attest foreign language reading comprehension level. In Phase three of the study the participants are administered a questionnaire based on the Survey Of Reading Strategies – SORS to find out what comprehension reading strategies and or skills participants claim to use to construe meaning when they engage with FL texts. Further in this phase the study attempts to confirm the effective and efficient use of reading comprehension strategies and the awareness participants have of their use through the administration of think alouds and a subsequent reading comprehension test.

The thesis has eight chapters: The Introductory Chapter 1 provides a general background to, and rationale for, carrying out the study, the background literature, and the context in which the study is conducted. The chapter also provides the theoretical framework, a mixed approach, followed by the aims and research questions. The chapter concludes with an outline of the limitations of the study and novel issues. Chapter 2 discusses issues related to the understanding of the reading

process, its development over the past century, and how these understandings have been extended to reading in a foreign language. Existing reading models are compared, and the reading strategies and skills that have developed out of these models, focusing on reading in an additional language and in a foreign language, including reading in an academic context. Chapter 3 describes in detail the research design and methodology using a holistic approach. It also presents the geographical location of study, the participants and the research questions. Chapter 4 focuses on academic reading strategies and skills which are identified and classified using different reading taxonomies through means of a Needs Analysis. The chapter reports on the Needs Analysis which is used in the study in order to develop insights into the current status of the teaching of EFL, ESP and EAP at the UEM, and to respond to the research questions (presented in the introduction to this chapter) on the use and appropriacy of textbooks in the different faculties of the EMU to provide ESP-EAP within an EFL environment. Chapter 5 describes and critiques two EAP language tests administered to participants. The chapter also correlates the identified skills and strategies with the degree of text comprehension and presents a comparison of the results on the two tests including their validity and reliability. Chapter 6 analyses and discusses the results from the cognitive and metacognitive questionnaire, and, building on the results from chapters 4 and 5, examines the skills and strategies of FL learners and users of English in an EAP context in constructing meaning from text and the degree of effective use (claims) of these strategies as well as the degree of awareness participants have of their use of these skills and strategies (inferred from the cognitive and metacognitive questionnaire). The chapter seeks also to correlate IELTS test results with the self-reported use of reading skills and strategies and compares L1 and L2 results. Chapter 7 builds on results from Chapters 5 and 6 and confirms the hypothesis advanced in Chapter 6, and, based on the results emerging from the think aloud verbalizations, provides an additional lens through which to examine issues related to reading comprehension strategies in terms of the extent of the effective use of reading skills/strategies and other variables in a FL context. The final Chapter 8 provides a summary of, and conclusion to, the study, and recommendations for future research in the field.

1.6 Limitations of the study

Certain constraints may have influenced positively and/or distorted the outcomes of this study. The lack of a large pool of studies on FL reading skills and strategies used by adult learners who are enrolled in university education was one of the major hurdles. In the course of my search for relevant literature, I found very few studies involving Portuguese language speakers, thus making it difficult to generalise some of the findings and conclusions. Secondly, I was faced with an absence of clear and consistent definitions of two very important concepts relating to the think aloud methodology (TAM): reactivity and veridicality. Similarly, I noticed that the literature concerning TAM does not provide a set of clear instructions to be followed when carrying out content analysis of data, nor does it provide any guideline to coding, marking, signposting etc. This may have resulted in biased analysis and/or interpretation of data, especially when the researchers of a given study are not the same as those using the data and thus may render the data invalid and/or difficult to reuse in a different context.

As for content, I have realized that text structure issues have not been fully and empirically explored in most of the studies I located, including in my own, and are in need of further research, as are issues related to veridicality. Some of the constraints I observed are related to the fact that IELTS results alone were not sufficient to clearly and comprehensively reveal the level of effectiveness of the reading skills and strategies used by the participants to construe meaning. This could only be done in association with, and in a combination of, varied research and data analysis methods. The participants in the pilot test and in the IELTS were not the same, and this may have reduced the possibility of carrying out a reliable comparative analysis and of determining conclusions on each of the individual readers. This process may also have been hampered by the fact that not all IELTS test takers volunteered to complete the cognition and metacognition questionnaire and to take the TAM, thus reducing the number of participants. However this latter aspect is not a major concern because TAM calls for small sample sizes for more reliable qualitative analysis. Although TAM is a research method that has been widely and universally validated, I experienced some difficulties in clearly explaining the purpose and the process to participants, and ensuring that my explanation of how to go about verbalizing one's own thought process avoided yielding *reading aloud verbalizations*: this is an intensive process which demands adequate and timed training/coaching of participants who may not be willing or

committed to spending this time. The relative absence of resources for this kind of research, such as equipment for video- tapping, also affected the TAM data collection and analysis: some crucial non-verbal data, such as eye movement and body language, may have been left unrecorded. One further limitation is related to participants' first language and its influence or not in the skills and strategies used to construe meaning. The study did not attempt to attest participants' first language level (i.e. Bantu Languages and or Portuguese) in general or at word or lexical level in particular and the possible influence on skills transfer to Portuguese and English.

The study did also look in-depth into L1 literacy knowledge as well as L2/FL grammatical proficiency. The primal goal was to identify reading comprehension strategies and gain insights into meaning construction in the target language, English, and these important aspects may have been overlooked. Time constraints and availability of participants did limit the possibility to do so and as such a call for a further study is of utmost importance here to get the gist and at length details on L1 (Bantu or Portuguese) literary and grammatical knowledge, even at word level.

1.7 Relevance of the study to the reading research field

Despite these constraints, I hope to deliver a study different from most previous empirical studies on FL reading involving Portuguese speakers (L1 or not) in a context with varied languages and coupled with the use of more than one research approach and method to tackle the reading comprehension and reading strategies issues. This present study could thus be described as a multiple component and methods study given its trifocal methods approach. An empirical exercise combining a mixture of research methods (I have not found one study in my literature review that combined more than two methods for the purposed aims in my study), namely a Needs Analysis with its accompanying questionnaire, a reading comprehension test, a cognition and metacognition questionnaire (partially based on SORS) and the Think Aloud Method (TAM).

The central focus of the study, students' comprehension of foreign language academic texts used in their education environment, is the first of its kind in Mozambique to use L1 Portuguese (as lingua franca) speakers reading FL texts to explore reading comprehension skills/strategies

within a unique multilingual context (including a potpourri of Bantu languages such as CiMankonde, CiNyungwe, CiNdau, CiSena, CiXopi, the lingua franca and others).

Thus this study can be said to be a genuine contribution to the research gap Mokhtari and Reichard (2004) pointed to and one that remains relevant: the virtual absence of any research investigating the metacognitive awareness and use of reading strategies by proficient college students - university students in our context - who are studying in different social, cultural and linguistic contexts. The present study advances a new term, *frequency hit*, to account for the frequency of choices participants make when purportedly claiming their own use of reading strategies. The analysis of the results from the Survey of Reading Strategy (SORS) based questionnaire (cognitive and metacognitive questionnaire) catered for a new dimension in terms of the possibility of participants not knowing which choice to *hit*: *a new Likert Scale column was added to the SORS research tool*. This reduced the high probability level of uncertainty. The very low degree of uncertainty regarding what they would do or claim to do when reading is shown by the choices (*frequency hits*) recorded in the added new point in the Likert scale (last column), ***I don't know*** - It should be noted here that the 'sixth' scale added to the 5-point Likert scale in the SORS instrument helped determine a variable (though barely significant, with only 11 *hits* when compared to points 3-5 of the Likert scale *hit* choices).

Thus in this chapter I have established the grounds for the study I intend to carry out and have also provided an initial discussion of reading models (which will be further developed in Chapter 2). As well as providing the structure of the study, its aims and limitations, this chapter has introduced new aspects to part of the research tool used in the holistic approach of the study.

CHAPTER 2 LITERATURE REVIEW

2.1 Understanding reading: from concept to process and from reading skills and strategies to reading in a foreign language

In this chapter I discuss various understandings of the reading process as they have developed over the past century and how these understandings have been extended to reading in a foreign language. The first section deals with reading as a process and presents some definitions of the various models developed over time. In the second section I describe and compare existing reading models (bottom-up, top-down, interactive and componential approaches). In the third section I present a discussion of work on reading strategies and skills that has developed out of the different models of reading, with a particular focus on reading in an additional language. A fourth section in which I discuss reading in a foreign language, including reading in an academic context, follows this.

My aim is to identify the reading challenges specific to reading academic texts in a foreign language, particularly in postcolonial and post-modern contexts where the colonising language was not English. In such countries, students have usually completed their schooling in a second or additional language, which, in the case of Mozambique, is Portuguese. In such cases, this language functions as a pseudo-L1 when students enter Higher Education and are faced with having to switch to English as medium of teaching and learning, often without having a well-developed academic register in Portuguese. A literature search and review has found there to be a marked lack of research on the complexity of such contexts. Moreover, the vast majority of research relates to second language reading, which differs in terms of the specificity and generalisability of its usage, its status in ESL and L1 contexts, and the nature of exposure to reading in a foreign language. In much foreign language research, participants have a strong school grounding in their L1 or home language, a situation which is markedly different in African countries (Mozambique as Angola examples), where the home language might have been brushed aside in favour of a foreign language, that of the colonizer, a most evident fact in Portuguese speaking countries where the L1 (Bantu) languages were deemed inferior and not

adequate as medium of instruction. For instance, in Mozambique the so-called Assimilados² and their children were obliged to speak Portuguese only and frequent schools with the white colonizers.

Taking into account the above factors in this research, I therefore use L1 for those contexts in which there was no colonization - the west and some other regions in the world - and L2 and FL to refer to the dominant language of schooling in Mozambique, which is Portuguese. Portuguese is the official language, the lingua franca, and sometimes, for a small number of people in Mozambique, the L1, even though it is a second or third language for many students. I use EFL to refer to English in the specific context of the research.

2.1.1 Reading – the concept and the process

For many researchers in the field, creating and defining adequate models of reading has proved difficult because of the interactive nature of the variables in any such study. One ‘must attempt to evaluate the different models in terms of their generalisability’ (Samuels & Kamil, 1984) so that these match with appropriate theories and, as we investigate and study models, Samuels and Kamil suggest, we ought to be asking such questions as, Does this model adequately describe both fluent and beginning reading? Does the model describe the word-recognition process as well as the comprehension process? Does the model describe the reading process for different materials as well as in different contexts? One might add to this list whether it is a model for different languages at different levels of proficiency.

There have been a number of second language reading theories and models developed over the years that have captured the complex nature of reading in a foreign language and have helped define and understand reading and the reading process in this context (Alderson, 1984, 1990, 2000), and Bernhardt’s work on ESL and FL reading is crucial to an understanding of this. The compensatory model of second language reading (Bernhardt, 2005) that evolved from her 2000 ‘A statement of theoretical distribution of reading factors’ model (Bernhardt, 2000:803) will provide support for the sections in this chapter dealing with reading in EAP and reading in a

² A statute given to few black nationals in Portuguese colonies and who enjoyed some of the colonizers privileges and rights to education, health, etc.

foreign language. The model is also crucial for my study because it is the theoretical basis for shaping part of the study as described in Chapter 1.

Understanding reading in terms of negotiating the cobweb that holds together the various ideas revolving around reading and literacy is crucial. There is no one single feature that can be said to define or characterise reading (Smith, 1985). If one considers the structure or the functions of the brain, reading *per se* is not exclusively connected to and/or concerned with any particular part. The reading process is connected to and by several parts of a very complex cobweb. Despite the abundance of studies by scholars who have attempted and successfully isolated a specialised 'reading centre' (Smith, 1985) in the brain, there is still room for gaining insights into other cognitive and physiological factors that are triggered during the reading process. It has been argued that in fact a number of areas in the brain are activated, which in turn activate and facilitate the process as a whole, and involve other physiological factors besides the brain, or specific sections of the brain.

A comprehensive understanding of reading as a process thus involves an understanding of the role played by several other parts of the human body, such, as the eyes, and by certain mechanisms of the brain linked to memory and attention. There are other internal and external factors involved, such as the degree of the reader's anxiety, the risk taken, the features and characteristics of the context surrounding the reader, the levels of the reader's language proficiency etc. This list is further augmented by the need of a reader to interpret interpersonal and socio-cultural relations, and the knowledge she or he has about the world, and/or her or his content schemata (Smith, 1985; Carrell, 1991; Bernhardt & Kamil, 1995; Yamashita, 2002; Shiotsu & Weir, 2007).

Smith (1978) and others have argued that:

...reading is no different from all the other common words in our language; it has a multiplicity of meanings. And since the meanings of the word on any particular occasion will depend largely on the context in which it occurs, we should not expect that a single definition for reading will be found, let alone one that will throw light on its mystery. (Smith, 1978:100)

Smith's emphasis on the multiple dimensions and on the contextualisation of the reading process encapsulates the impossibility of pinning it to one definition, which could capture the entirety of the complex process.

For some theorists, as described and critiqued in one of Smith's earlier works (1971), the process of reading can be easily explained: 'it is simply a matter of "decoding" printed symbols into sound and then extracting meaning from sound' - the bottom-up view of reading (Smith, 1971:44). The weaknesses and limitations of this model were identified and transformed by later researchers and theorists in the top-down model of reading as will be described and discussed below.

According to the bottom-up model, reading simply involves individuals recognising printed graphics and sounding them out for the purpose of obtaining meaning. However, following Smith's argument, this limited definition does not reflect how fluent readers, for example, behave. Fluent readers do not convert written words into sounds before they can comprehend text; in fact it is generally impossible for them to do so. For these readers, fluency in reading is accomplished too fast for the translation of words into sounds to occur. It is crucial to point out at this stage that prior and/or anticipated comprehension of meaning is an essential pre-requisite for fluent readers to sound out a group of sentences. For example, for a reader to discern which lexical items call for literal or metaphoric reading vis-à-vis their phonemic use, may be rather confusing - the use of 'son' (*every mother's son*; *son of Mars*, meaning everybody and a soldier, respectively), 'sun' (homophones with 'son') and 'soon' for instance. A further set of factors in defining and understanding reading are those that affect orthographic depth, defined by Grabe (2009) as the regularity of sound - letter correspondences, consistency of spelling patterns, and degree of completeness of orthographic representation. These factors affect the development of word recognition in different languages and include variables such as syllable and morphological complexities and visual density of written texts. An in-depth understanding of these issues is central for the L2 and FL reading context as "the complexity of the notion of orthographic depth and the different ways in which its effects can be studied in different languages is revealed" (Nassaji, 2011: 176).

If one accepts that reading is an act of communication in the course of which information is

transferred from a transmitter to a receiver, who may be a scholar, a child or even an adult learner, all of whom would be reading for different purposes (Robinson & Good), it is sound to claim that reading will be more of a psycholinguistic process than one of sound recognition. This psycholinguistic process is the top-down model mentioned in the introductory chapter and briefly discussed below, and involves the reader (a language user) reconstructing as best (s)he can the message which has been graphically encoded by the writer (the graphic display of letters), rather than engaging in a mere decoding exercise, i.e. the sounding out of words³.

Building on this model, reading can thus tentatively be best described in the interactive theories of reading posited by theorists such as Robinson and Good (1987):

Reading is best described as an understanding between the author and the reader- in our terms, the transmitter and the receiver. The emphasis is on the reader's understanding of the printed page based on the individual's unique background of experiences. Reading is much more than just pronouncing words correctly or simply knowing what the author intends; it is the process whereby the printed page stimulates ideas, experiences, and responses that are unique to an individual. Reading can simply be thought of as a personal encounter with the printed page. Basically, then, an important aspect of reading is the process of constructing meaning from printed material. (Robinson & Good, 1987:9)

This description shows an important aspect of reading, the process of meaning construction. The details of how this occurs can explain most of the questions related to reading in general and, more particularly, reading by adult learners within specific contexts, such as that of the EFL-EAP learners, the research population in the context of the present study. I will come back to this aspect later when I discuss reading in a FL in detail.

There are some differences, and some overlapping assertions with regards to reading as defined by several researchers in the field mentioned above. Most of the definitions have one aspect in common: comprehension. While comprehension is an invariant condition of reading, it alone does not provide us with a clear definition of the reading process. In beginning to question and/or unpack the definitions above one would find that no clear answer. There seem to be more

³ More data on 'decoding' and 'encoded message' can be found in the sections below where reading models and reading in a foreign language are discussed.

questions than answers: could reading be a skill resulting from ‘formal’ instruction, only acquired through this kind of instruction, however such formality may be defined? If this is so, then any improvements in the teaching of reading should be informed by a scientific understanding of the reading process and one should be able to respond to those questions related to the complexity of the reading process, its dimensions and operations (Robbeck & Wallace, 1990). In very simple terms one would define reading by simply rolling up what takes place when one reads, i.e. saying words correctly, knowing the meaning intended by the author, relating one’s past and/or present experience to what is written in the text, remembering important and relevant facts of any generalizable event or situation, expressing feelings related to one’s sentiment about a story, ‘sounding out’ words aloud and/or silently; pointing out words, demonstrating knowledge of words, and responding correctly to instructions in a reading exercise. But would all of these components be sufficiently inclusive? I would argue for the importance of a detailed exploration of the different reading theories and/or approaches developed over the years in order to shed more light on the complex factors involved in the reading process.

2.1.2 Reading Models – a general and brief overview

As already mentioned, the present study aims to identify the reading challenges specific to reading academic texts in a foreign language particularly in postcolonial contexts where the colonising language was not English. Thus my brief account of reading models and their characteristics is an attempt to gain more insights into the questions which emerge from the interactive nature of variables suggested by Samuel and Kamil (1994), and to understand how each of the reading models discussed operates and informs an understanding of reading strategies and skills used in L1, L2 and in a foreign language.

2.1.2.1 Reading Models

There have been several models of reading developed over the years, but the most prominent are those developed in the seventies: the *top-down models* developed by Goodman (1970), and Smith (1971) , and the *bottom-up models* developed by Massaro (1975), LaBerge and Samuels

(1974), Mackworth (1972), and Gough (1972) . A third reading model, the *interactive* model of reading, was proposed by Rumelhart (1977), and later McLelland (1986). Building on the interactive approaches, a comprehensive model of reading was proposed by Just and Carpenter (1980). Rayner and Pollatsek (1989) also proposed a primarily bottom-up model, but one that has a degree of interaction between top-down and bottom-up processes. This model will not be discussed separately, despite the fact that it brings new aspects to the traditional models of reading, i.e. *saccade*, *eye fixation* within the initial encoding process of printed words, which is presented as having two separate processes that take place in parallel, the *foveal* word processing and the *parafoveal* word processing (Rayner & Pollatsek, 1989), since I shall not be taking those aspects into account in my study.

The reading models listed above focus on the interaction between text and reader and address issues such as ‘how words are recognised, how long they are kept in working memory, when syntactic processing begins, and so on’ (Urquhart & Weir, 1998:39; see also Brunfaut, 2008). Other models, such as the interactive and the componential approaches focus on a different set of variables, namely what components are involved in reading, ‘rather than on how these components interact, or how the reading process actually develops in time’ (Urquhart & Weir, 1998: 39): text understanding is related to components such as language knowledge, background knowledge, and so on. However, the componential models focus on the reading product rather than on the actual reading process, i.e. the understanding of text is what counts, not how that understanding is reached (see Alderson, 2000). Most importantly, though, as stressed by Brunfaut (2008), is the fact that both classes of approaches contribute to the understanding of the concept of reading whether it is regarded as a process or a product.

In the introduction to Chapter 1, I mentioned a relatively recent reading model that discusses issues pertaining to L2 and FL – the compensatory reading model of second language (Bernhardt, 2000, 2005). The model was revised by the same author and published as *Reading Development in a Second Language* in 2011. The 2005 model was discussed in detail in Chapter 1 and reference to the revised 2011 model is mentioned. I will refer briefly to this model later in this chapter and link its relevance to my study aims.

I shall now focus in more detail on the specifics of these models.

2.1.2.2 Bottom-up theories

The Bottom-up model is a reflection of the orthodox conception of reading which states that reading is sequential and essentially a recognition by the reader of printed letters that are then combined into words and finally sounded out, which, once that is done, these sounded out words turn into statements, resulting in text comprehension. Research in reading literacy (from the 1970s) has proven that the reading process has no single *en route*, but various *en routes* to the attainment of comprehension. Nonetheless the bottom-up model of reading, a valid theory for the understanding of reading literacy as a whole, can help with the issues that were being discussed by theorists from the 1970s on. Therefore I propose to briefly discuss this model of reading as a bridge towards the research that has resulted in the current understanding of the process of reading in a foreign language context.

Essentially, the bottom-up models as proposed by Massaro (1975), LeBerge and Samuels (1974), and as argued for by Rayner and Pollatsek (1989), were not comprehensive. The most comprehensive bottom-up model was proposed by Gough (1972), and further developed in his later work of 1985, where he recognized the earlier limitations of his model which had failed to accurately depict the reading process, especially with regard to his assumption that words are read letter-by-letter from left to right, with the exception of texts in some Middle Eastern and Asian countries (Gough, 1985). Despite his recognition of this, Gough did not retract his position regarding the view that ‘the letter mediates word recognition’ and that ‘words are recognised through phonological recoding’. He stated that, since most words read are not high frequency words and not predictable, one can only read them in a bottom-up way. He claimed to find proof for his adherence to bottom-up aspects of reading in the fact that proficient readers also read what is printed. For further details of this process and debate see the works by Gough (1972, 1985), Rayner and Pollatesk (1989), Urquhart and Weir (1998), and Brunfaut (2008).

The bottom-up model states that visual information, i.e. a letter of the alphabet, is recognized by the reader, then such a letter is added to another and so forth until these result in a word, and then in meaning. Such a process is understood as being sequential and as operating serially, from left to right (this not the case of Asian linguistic codes such as Arabic, and Mandarin Chinese, and in these cases there could be a different visual recognition explanation). This intricate process is

essentially what is termed decoding. Just and Carpenter (1986:15) define decoding as ‘identifying the orthographic form and accessing the corresponding word in the mental lexicon’. According to this basic bottom-up model, reading is reduced to a mechanical translation from a written to an oral code, from print to speech, and it is believed that once sentences are spoken aloud, comprehension is the logical outcome.

A more comprehensive description of the bottom-up model of reading by Urquhart and Weir (1998) entails a more complex *en route* to the point where the reader abstracts the construed meaning within the text. That is, in the first stage of the process, the reader enters into his/her iconic memory the visual information, which is around the fixation point. Such visual information is put on hold until the reader proceeds to fixate another piece of visual information. The former piece of information in the iconic buffer is then used as raw material in order to identify the letters in the word. As mentioned above, and based on Rayner and Pollatsek (1989), this happens sequentially and in a serial fashion and across the display. During the process of recognition, where each letter is processed individually, the Scanner, i.e. a device responsible for letter recognition, consults pattern recognition routines kept in the long-term memory (working memory). These individually processed letters from the words focused upon are stored in a Character Register and immediately worked upon by a mechanism known as the Decoder, and this maps the characters into a string of systematic phonemes, which, according to Rayner and Pollatsek (1989), are considered to be hypothetical entities which are related to speech, systematically, but can be set up much more rapidly than speech itself. Once the Decoder, with the use of the Code Book, has made the adequate correspondence between the grapheme-phoneme rules, the end product from such an exercise is temporarily stored in some sort of a recording box (inner speech). Once the fixated words are identified, these are held in the primary memory (short-term memory) until a statement can be constructed and stored in a permanent warehouse, the Merlin, a ‘magical box’ that stores sentences once these are understood by the reader and can thus be sounded out. This model is more clearly summed up by Urquhart and Weir (1998).

Urquhart and Weir’s (1998) description follows the same sequential format as that of Rayner and Pollatsek (1989), with the addition of two components: the Librarian, a component which receives the systemic phonemes the Decoder has converted from the string of letters, and the

Lexicon which assists the Librarian in recognising the and processing individual words before proceeding to the Merlin in which syntactic and semantic rules operate to assign a meaning to the sentence. The final stage is that of the *Vocal System*, where the reader utters orally what has first been accessed through print.

The bottom-up model of reading clearly has its limitations, for example, i) the mechanical, automatized nature of the reading process, where prominence is given to a mechanical translation of a written code to an oral one, ii) the simplistic, or linear, notion of uttered sound resulting in comprehension as a logical outcome, and iii) comprehension in the bottom-up model is secondary to text decoding. There is also, iv) only partial coverage of the reading process, with emphasis being placed on low rather than on high order processes (this latter issue will be discussed in Chapters 5 and 6) (see Rayner & Pollatsek, 1989:465-467; Gough, 1972, 1985; Urquhart & Weir, 1998). Given these limitations of the bottom-up model, reading researchers saw the need to develop a reading model that could cover the reading process in which the majority of the variables and elements then known could be accommodated: the top-down theory.

2.1.2.3 Top-down theories

The **Top-down model** is a cognitive model of reading developed by Goodman (1970) and Smith (1971) in which the primary feature, the ‘top’ of the information- processing system (Rayner & Pollatsek, 1989) controls the flow of information at all levels. This ‘top’ of the information-processing system is the part that is responsible for enabling the reader to construct meaning encoded within a written passage, i.e. the graphic representation of a text. Within this model of reading the reader, when interacting with the text, engages in a cycle that involves the development of an initial hypothesis of what he/she will read next, and once that imaginary idea is confirmed through the sampling of the visually printed information, he/she generates the next hypothesis, a new one, about the next material to be encountered.

The top-down model, as proposed by Goodman (1970), was originally developed to account for how children learn to read. Goodman saw differences between beginning and more skilled readers, although the process is essentially the same for both. His model involves a ‘selective,

tentative anticipatory process', meaning that the reader hypothesizes what will come next once one aspect has been met in the printed page, a central aspect of the model in question. Following the model that focuses on what are called higher order cognitive processes, one will note that any reading process that takes into account the processing sequence in Goodman's model begins with an eye fixation on new material. Once the reader has selected graphic cues from the field of vision, he/she uses the information to help formulate a perceptual image of part of the printed material – the text. This step is guided by a number of factors that include the type of strategies used by the reader, the cognitive style,⁴ and knowledge previously attained about the topic and/or the world in general. According to Rayner and Pollatsek (1989), the step that follows this is rather obscure. The reader seeks to find answers by accessing his or her memory to find related syntactic, semantic and phonological cues, which she/he uses to broaden the perceptual image. This exercise is to some extent obscure for it is almost impossible to determine how the cues can be related to a perceptual image unless the image is first identified as a sequence of letters or a word (Rayner & Pollatsek, 1989:462). This gives rise to certain questions, such as, does this mean that while reading, meaning is first obtained or anticipated and only after that words are decoded, an idea which is suggested by those who discuss the bottom-up and top-down approach as each other's opposite. In an attempt to clarify this, Brunfaut (2008:8) goes further when she reviews the model, arguing that "a different stress is put in terms of central matters" during the process of reading. While the bottom-up approach gives incoming information a central place in the reading process, the knowledge a reader already possesses is central to the top-down model. The top-down approach also assumes that the reader does not so much make use of graphical information when reading, as exhausts 1) her/his knowledge on the topic, 2) information from the context, and 3) syntactic, semantic and structural information. So if the reader is successful in his/her endeavour, i.e. essentially guessing word meaning by having gone through the steps described above, he/she stores the 'product' (resulting choice) in what is referred to by Goodman as 'medium-term memory'. If the opposite process takes place, the reader looks back at parts of the text encountered earlier and the process repeats itself in a cycle, and once the reader is sure about her/his choice of meaning, this is assimilated with prior meaning from the text and then stored in long-term memory. However, doubts continue to linger amongst reading theorists as to how the "obscure" feature mentioned above is processed.

⁴ More on cognitive styles and cognitive and metacognitive strategies can be found in sections 2.2 and 2.4 below.

Doubts are also fuelled by some of the many limitations of the top-down model, one of which is related to the fact that its proponents have not clearly and explicitly discussed the type of hypotheses that are generated in the mind of the reader. Despite the shortcomings of the top-down model, one very clear point emerges: reading is a constant predictive process that, though imprecise and unclear at times, still involves the reader sampling the graphic display long enough to confirm his/her guess of ‘what’s coming’, and also using prior context to construe meaning, or some sort of understanding of the encoded symbols. In this model there is some hint of what occurs in the mind of the reader, the ‘predictive’ nature of the process, thus hinting at the reader’s use of metacognitive and cognitive skills. To some extent the interactive model of reading developed and clarified this issue.

2.1.2.4 Interactive theories

The Interactive models of reading have as proponents’ researchers and scholars who have felt it important to fill in the gaps left in the other models of reading, and/or explain the limitations related to the process of reading represented by these models. Perhaps the most cited interactive models of reading are those developed and put forward by Rumelhart (1977), McClelland (1986), and Just and Carpenter (1980). These reading models have been drawn from ideas posited by the proponents of the bottom-up and top-down models but distance themselves from the linear and sequential idea of reading. Interactive models of reading provide a comprehensible account of how context and the expectations and hopes of any given reader can proactively influence the reading process. The interactive aspect of the model entails a view whose features are strongly related to the interaction between text – graphic display - and contextualized information, both of which are used by the reader to build meaning upon such interaction. This model emphasises that such interaction will result in the reader interpreting a range of factors linked to text and s/he will thus be able to construct meaning. The interaction said to be taking place in this reading model may offer a possible way for researchers to interpret the reading process.

Rumelhart’s model provided the reading research field with an alternative to the serial flow-chart models advocated by scholars such as Gough (1972), Mackworth (1972) and Massaro (1975),

already discussed above, and a model which strongly stressed the idea of parallel rather than linear processing mechanisms. McClelland's (1986) model developed Rumelhart's interactive model further, but not without some shortcomings: there is no mention of how eye movement and information are integrated across fixations, much in the same way as Rumelhart failed to say anything regarding eye movement control, aspects related to the phonic route in word recognition, backup strategies, or comprehension issues that are beyond the level of a sentence (Rayner & Pollatsek, 1989). One of the most comprehensive interactive models of reading is that proposed by Just and Carpenter (1980). This model is primarily interactive, and also carries some resemblances to the bottom-up models posited by Gough's 1972 and top-down models by Goodman (1970).

Just and Carpenter's (1980) interactive model shows that the processing stage commences with an eye fixation. Then a Get Next Input stage follows, i.e. a short stage which follows from the reader's decision to move her/his eyes to a new location if all necessary processing has been completed with the initial item. As suggested by Just and Carpenter (1980), this decision is only made once lists of generic and specific conditions have been fulfilled: the meaning of the word accessed or the transference of a specific word to the working memory. Then the physical features of the words are extracted, and, in the 'Encoded Word' and 'Access Lexicon' stage, the word is perceptually encoded and the underlying concept activated. Here, as suggested by Rayner and Pollatsek (1989) this activated concept serves as a pointer which is utilized to locate a more precise meaning representation. They take this process further in stating that the stage where the determination of the syntactic function of words i.e. the 'Assign case Roles' stage in Just and Carpenter's (1980) model, is the first of the processes that determine relationships among words. It is at this stage that the reader segments clauses. The reader also relates such clauses with sentences so that text coherence can be captured. This is a clear example of a process of integration, an important aspect of the model in question. The final stage, the 'Sentence Wrap-up' stage, involves the reader's battle to resolve any remaining problems, such as inconsistencies related to sentence formation and the search for referents. Once that is done, and the reader realises that he/she has reached the end of the sentence, there is a clear indication that another sentence begins and thus an appropriate place to attempt integration. This may also happen with the ending of a clause or unit larger than a sentence. Arguably what is important about this model is the concept of a 'production system' (presumably stored in long-term

memory), where procedural knowledge is embodied in a set of condition-action rules. According to Rayner and Pollatsek (1989), the condition part specifies which elements should be present in, or absent from, working memory to trigger an action. The model emphasises that the idea of a hierarchy of processing skills, or of a unidirectional reading process, is not accepted, but instead the nature of the interaction is simultaneous and reflexive, where processing is parallel, not serial, and where the activation of different skills depends on variables such as reading capacities, language knowledge, purpose of reading, text characteristics, etc. (Mulder, 1996, in Brunfaut, 2008). As with any other reading model, this model has been critiqued, and been found to have its own shortcomings. Some of this criticism is related to the inexplicit nature of the interaction posited in the approaches: no full and coherent description of this interaction is advanced, apart from the outcome of such interaction. The proponents of interactive approaches do not clarify how relevant and important the various sources of information are that are involved in the interface. And with reference to Bossers, Brunfaut stresses that the contribution of these approaches to the understanding of the reading process as such is limited and superficial (Bossers, 1992; in Brunfaut, 2008:14). In response to such shortcomings, other researchers have further developed various interactive reading models that they believe to be more explicit and comprehensive. I shall briefly refer to one of these other interactive models, namely *componential* approaches to reading.

2.1.2.5 *Componential approaches.*

Componential approaches are those approaches that focus on identifying the components involved in reading, which, according to Schneider and Shiffrin (1977:5), are ‘a set of functionally defined information processing components which, in interaction with one another, accomplished the more complex task of text comprehension’. Apart from Schneider and Shiffrin (1977), componential approaches have been proposed by scholars such as Bernhardt (1991), and Hoover and Tunmer (1993). These reading approaches have included variables such as word recognition, language, background knowledge and metacognition, and have looked into describing reading ability. This is not particularly evident in the models discussed above. Hoover and Tunmer’s (1993) model of reading posits a non-complex description of reading, a ‘simple view’ of reading that consists of two components: word recognition (decoding) and linguistic comprehension, which are equally important and necessary. Bernhardt’s 1991 model proposed

elements such as linguistic knowledge, literacy (the ability to deal with a text and the awareness of the reason to do so), and background knowledge or schemata, the relative absence of which lent the componential approach a rather one-dimensional nature.

The idea behind the componential model is to describe reading ability rather than model the process of reading *per se*, and this aspect finds support in works by Fries (1963), and Venezky and Calfee (1970). In this view the two components, word recognition and linguistic comprehension, are separable. Studies of cognitively disabled readers show statistically that the two components significantly and independently contribute to reading comprehension and/or account for a significant and unique part of the variance in reading comprehension (studies of 'normal' readers). As shown by the work carried out by Brunfaut (2008), Hoover and Tunmer's (1993) model of reading arguably shows that the combination of the two components in their model is multiplicative rather than additive in nature, and as such reading can be considered as a multiplication of decoding and linguistic comprehension; it is not simply a matter of cause and effect but one that leads to an advanced use of skills and strategies to enhance and adequately use one's capacity to construe meaning. An additive view (i.e. reading = decoding + linguistic comprehension) would, according to my understanding, mean that comprehension would have been attained by merely decoding and comprehending linguistic features. As such this would result in 'comprehension' of a proposition and/or text. Support for this view can be found in an empirical study by Hoover and Gough (1990). Indeed, such a *componential* model does provide us with a clearer insight into reading ability as it caters for the idea that a good reader needs to be skilled in both decoding and comprehending linguistic aspects of the text, rather than following the automated and/or mechanized process posited in the previous models of reading. This aspect will be highlighted later given that the reading skills and strategies which would be utilized by readers to access comprehension may entail the possession of a capacity to be a skilled and enabled reader to do so.

As with the models briefly discussed above, Hoover and Tunmer's (1993) componential model has been criticized. Some of the shortcomings of their model mentioned in the work by Brunfaut (2008), citing Urquhart and Weir (1998), are the concerns expressed by the latter in particular about the fact that the 'simple view' cannot explain why there is variation in reading and comprehension performance amongst L1 readers with the same or similar basic language

competence. Despite such criticisms, the componential approach to reading does fill in some of the gaps of the rather rigid linear and sequential models of reading discussed above. As Bernhardt (2003) has suggested, the concept of literacy across languages is one of the original strands of reading research. Thus a renewed interest in directions might more effectively and appropriately capture a contemporary interest in reading in a multilingual context, given the fact that most of the reading models discussed above were developed by empirical studies involving L1 learners and children, thus yielding possibly invalid conclusions for a context where the focus is on EAP-EFL adult learners.

2.1.2.6 L1 reading models relevant for L2 reading

Notwithstanding the criticisms mentioned above, one can argue that the results informing reading literacy research in a L1 context have helped in the development of an initial and solid basis for a pool of research in the EAP-EFL field. I would argue that it is impossible to discuss reading in another context, such as an L2/FL context, without taking into account the developments in L1 reading research for the following reasons:

i) far more research has been carried out on reading in L1 contexts (especially in English as an L1) than in L2 contexts; ii) L1 students learning to become readers in L1 contexts usually achieve a reasonable level of fluency in reading comprehension abilities, but the same claim cannot be made for students learning to read in L2/FL contexts; iii) the ability to draw implications for reading instruction from research, including training studies that demonstrate the effectiveness of numerous instructional techniques and practices, is much more developed in L1 contexts than it is in L2/FL contexts; iii) reading instruction in L1 contexts has been a source of many instructional innovations that have not yet been extensively explored in L2/FL contexts, either at the level of research or at the level of practical implementation (Grabe & Stoller, 2011).

These factors suggest an easy and well-crafted description of the reading processes and abilities of students (children) learning to read in their L1s compared to L2/FL readers/students. The question arises: should we simply transfer these abilities to a L2/FL context, and in so doing, would we secure the development of fluent L2/FL readers? Perhaps not, but one could argue that they can be taught or guided in how to be fluent readers and, with informed guidance, can

make measurable significant progress. The question then arises as to how this can be done without major impediments to the process, and with a high degree of success. One way would be for teachers or lecturers to go about making informed and productive use of the research results yielded from L1 reading research.

Researchers in L1 and L2 (see Chapters 1 and 5) have discussed the idea of transfer of one language to the other, and concomitant interference of the L1 in the process (evident in bottom-up, top-down and interactive models). Because of the non-inclusion in the pool of FL research of issues related specifically to second language text processing till the mid 1990's (see literature review in Chapters 1 and 5), an old lingering question, '*Is it a reading problem or a second language problem*' (Alderson, 1984) remains. Perhaps, as hinted by Bernhardt (2005), the question is not whether language and literacy skills transfer or not. The question is 'how much transfers, under what conditions, and in which contexts' (2005:138). The question is not one of identifying a linguistic threshold; it is one of clarifying the relationship of linguistic knowledge to literacy knowledge, to individual/idiosyncratic knowledge. To answer these questions, I would argue, it is important to look at all variables that might play a role in the development of the reading ability of a FL reader, of which reading comprehension skills, reading literacy and foreign language instruction are part. This investigation cannot be complete without an understanding of the links there might be between the reading process per se, reading in L1, reading in a foreign language, and the conceived models of reading discussed above.

A useful analysis of the key differences between L1 and L2 reading, including linguistic processing differences, educational and developmental differences, and institutional and cultural variables, is provided by Grabe's 2009 work. Although these aspects are not discussed in depth in my study, they are of importance for a FL reading context such as mine in Mozambique, where primary school instruction starts after the individual has already developed oral literacy in a language that is 'formally' discarded in favour of Portuguese, the lingua franca and medium of instruction (the L2 or FL), and then at a later stage students are required to learn a FL, English; hence the need to find an adequate platform of comparison to cater for the L2 and/or FL context in my study. Of the models discussed above, necessary to do for understanding the reading process, I have found one which I consider has the possibility of being suitable for a basis of discussion in FL reading: the 2005 compensatory model of second language reading (Bernhardt,

2005), a model that has been reviewed by its proponent in her 2011 volume, and which discusses the same issue.

I mentioned in Chapter 1 that the current study would not follow any one theoretical conceptual line but would incorporate various models where appropriate to the aims of this research, the carefully-thought-out research questions, the context, the type of respondents, and the evident gap in the field of reading comprehension concerning some of the processes that occur when reading in a foreign language takes place, as well as the skills and strategies L1 and L2 readers use to construe meaning from texts. Also mentioned in Chapter 1 is that I have crafted my study to shed light on the ‘50% unexplained variance’ area as suggested by Bernhardt’s 2005 model of second language reading and build upon the revised 2011 model. This model is far from static and its evolution has helped to show that the comprehension strategies, engagement, content and domain knowledge, interest, motivation, etc., are variables still to be thoroughly investigated and understood. The reading models discussed above do not provide full answers to these issues, thus leaving room for further engagement with them. These reading models and theories have however paved the way for the current understanding of reading in L2 and FL. The work of Weir (1984), Urquhart and Weir (1998), and Bernhardt (2000, 2005), like that of Alderson (1984, 2000), Alderson and Urquhart (1984), Sheorey and Mokhtari (2001), Errey and Li (2008), and Lau and Chan (2003) on reading and reading strategies has helped with recent developments in research on reading in L2 and or FL. It is interesting to note that Bernhardt’s 2005 model of reading evolved from the concept of second language reading that had been influenced extensively by schema theory and psycholinguistics of the 1970s and 1980s, and by “research and thought on the interdependence of language and literacy hypothesis versus the threshold hypothesis’ in the late 1980’s and 1990s” (Bernhardt, 2005: 133). The model and further expansions (2011) are not disconnected from the developments in L1 reading and acknowledges the components needed for a contemporary L2 reading model that includes a L1 literacy level and a L2 knowledge level, and which takes into account the interactions of background knowledge, processing strategies, vocabulary level, and relationships between and among various cognate and non-cognate L1s and L2s. The issue of the age of a reader is also a variable taken into account. For instance, most of the reading models discussed above, particularly the bottom-up and top-down models, have been based on child literacy rather than on adult college or university student reading such as that done by the participants in my research. These aspects

will be borne in mind given the particular kind of multilingual context in which the present study is set.

Following Bernhardt's 2005 and 2011 models of reading, part of my discussion in the present and subsequent chapters will examine and posit explanations that may contribute to an understanding of whether reading in a second language is circumscribed and reduced to being a 'problem of syntax' or 'prior knowledge', or to a problem related to word-level and phonological issues. Further, discussion will also build on the 2011 work on the same model, i.e. the revisited discussion on reading development, covers, among other aspects, an examination of current thought about the teaching of second-language reading, underlining the evolution of this thought, and looks at instructional strategy for learning to comprehend advanced-level, upper-register texts. The examination also concentrates, principally, on expository texts, as Bernhardt (2011) asserts, due to the preponderance of second-language reading across the globe taking place within the expository context, as measured by the content of internet-based texts in her 2011 study.

The reading models discussed above (top-down, bottom-up, mainly) rely on classical quantitative research techniques and are dependent upon a measurement of time of voice onset and reading aloud. The Bernhardt 2005 compensatory model presents results from a more holistic examination of L2 and FL reading, where ways in which prior knowledge and related aspects used by readers are investigated. Bernhardt's (2001) initial model has assisted researchers in looking at results in the field of reading in a second language in terms of processes such as word recognition and phonological strategies which are involved in recognizing and understanding words from a more accurate angle by researchers in L2 reading in a relatively short period of time; this would take longer had reliance on the reading models and theories mentioned earlier persisted. Further evolution and development of the model has resolved aspects linked to the classic bottom-up features, i.e. syntax has been seen to be not as predictable as formerly: syntax appeared to function at an instance of low error rate at the early levels of proficiency (Bernhardt, 2005).

The compensatory model of reading evolved and, as described by Bernhardt (2005) the 'development of understanding within particular texts followed no predictable pattern other than the fact that once readers made a decision about text content they did not go back to question that

decision', i.e. readers did not seem to psycholinguistically guess their way through a text, testing hypotheses; they made 'an initial decision and guessed their way through that decision rather than through the text' (Bernhardt, 2005:135), and this was also the case with background knowledge (schemata) which they used if and when they chose to. Here it is worth noting that readers who appeared to not to have the appropriate background knowledge, in spite of this, achieved a high level of comprehension. As mentioned in Chapter 1, and worthy of repetition here, is that 30 years of research in the field since the original bottom-up and top-down models has clearly revealed that the variables involved in the L2 reading process were and still are highly more complicated than those in the general L1 reading. As Bernhardt (2005) puts it, grammar and the orthographic nature of a language, sociocultural reader variables, sociocultural text variables, and other influences are all involved in second language reading. And these need to be packed onto an *satisfactory* (my emphasis) integrated model that covers issues concerning text-based features such as *text structure* (Riley, 1993; Tang, 1992; Yano, Long, & Ross, 1994;), *syntax* (Berkemeyer, 1994; Takahashi & Roitblatt, 1994), and *word knowledge* (Chun & Plass, 1996; DeBot, Paribakht, & Wesche, 1997; Hulstijn, 1993; Kim, 1995; Knight, 1994; Leffa, 1992; Laufer & Hadar, 1997; Luppescu & Day, 1993; Parry, 1991; Zimmerman, 1997), and have since the 1990s remained areas of investigation as have conceptual features such as *affect* (Chi, 1995; Davis, 1992; Davis, Caron-Gorell, Kline, & Hsieh, 1992; Kramsch & Nolden, 1994) and 'phonological aspects of reading', and their connections with other language modalities such as writing (Carrell & Connor, 1991; Hedgcock & Atkinson, 1993; Lund, 1991). Bernhardt's 2005 model also brings to the surface the idea of continuity in researching reading and its variables. This idea consistently highlights the need to examine the question of whether the field of second language reading should focus principally on the *reading* part of the proposition or on the *language* part of the proposition. This question is central to my study. In my current study issues pertaining to L2 or FL language knowledge (grammatical form, syntactic parsing, cognates), the linguistic relationship and or relation between L1 and L2, and other aspects, which have been dealt with in a much more in-depth in other studies, will not be discussed again but are taken onto account. Issues related to text comprehension, how reader assesses that comprehension, i.e. the use of appropriate strategies and or skills, and their effective use, are the focus of this study.

The issues pertaining to Bernhardt's 2005 model of reading (further explored in her 2011 work) are explored in more detail in the current study. A discussion of reading in a FL is presented

below focusing on issues relevant to reading abilities, reading skills and strategies, as well as issues related to linguistic competence. The discussion takes into account the gaps in FL research revealed by Bernhardt's model, mainly in terms of the absence of discussion and/or research on the use (effective or not) of reading skills and strategies, reading comprehension, and meaning construction in FL reading. Further reliance is put on the revisited compensatory model of second language reading (Bernhardt, 2011:38) and her revised discussion on some of the issues above mentioned and new ideas developed by her and presented in her chapters 4 and 7. As an aid to understanding these I first discuss issues related to reading and reading strategies, and reading taxonomies, which together provide the necessary background for the Needs Analysis in chapter 4.

2.2. Reading and Reading Strategies: overview

2.2.1. Reading Taxonomies – early and current trends

The quest to understand reading, and the ways in which people read, has driven many researchers to find appropriate categories and/or ways to classify what readers/learners do or should do, or what they (readers) should look for when reading different types of texts. In terms of pedagogy, language teachers and lecturers need to be aware of such categories and/or classifications so that their teaching, and their students' learning, can be effective. From the late sixties several studies have been carried out, and some have been successful in producing, reviewing, and adapting or adjusting a series of taxonomies for classifying skills and strategies in the field of reading (Shub, Friedman, Kaplan, Katien & Scroggin, 1973; The National Assessment of Educational Progress, 1973; Aaron et al., 1976; Harris & Smith, 1976; Otto & Askov, 1974; Clymer, 1969; Davis, 1968, 1972; Robinson, 1978; Smith, 1978, 1985; Weir, 1984; Greenal & Swan, 1986; Robbeck & Wallace, 1990; Urquhart & Weir, 1998; Li & Munby, 1996; Munby, 1978; Alderson, 2000; Sheorey & Mokhtari, 2001; Errey & Li, 2008; Lau & Chan, 2003).

Currently, most recent studies have circumvented the use of a single taxonomy to understand and define the reading process, preferring to make use of '*bits and pieces*' from several taxonomies. The section below elaborates on the theories underpinning the ideas behind reading skills and

strategies and thus provides a clearer picture in terms of understanding the main aim of the present study: to identify and describe reading strategies, their effective use in construing meaning from academic texts, and the degree of awareness of their use by readers in a multilingual EAP-EFL context.

2.2.1.1 A reading skill or a reading strategy?

Typical reading strategies in L1 and L2 include:

1. using the index of a text and scanning the relevant paragraphs;
2. using the index and/or contents of a text and reading the relevant sections;
3. skimming the whole or part of the text;
4. reading the text carefully and taking notes;

These strategies are often confused with what are sometimes referred to as reading skills. According to Robbeck and Wallace (1990), 'skills range from the knowledge-based, where access to patterns of stored representations is necessary for identifying the denotated colour "yellow", to action-based, where transformation of information is needed for interpreting the connoted meaning of "yellow" as "cowardly" to sync with the context' (Robbeck & Wallace, 1990:119). Reading strategies, or metacognitive strategies, are conscious means by which students monitor their own reading process, including the evaluation of the effectiveness of their own cognitive strategies.

While the two terms, skills and strategies, can be confused and mistakenly used interchangeably, some scholars have suggested that such confusion does not cause any major harm. However, we can clearly see a skill as a generally accepted entity, an acquired ability that operates largely subconsciously, whereas a strategy is a conscious procedure carried out to solve problems in the comprehension process (Pang, 2008). Paris, Wasik, and Turner (1991) analysed and interpreted the relationship between skills and strategies, and claim that an emerging skill can become a strategy when it is used intentionally. They go further in asserting that a strategy can 'go underground' and thus be turned into a skill (1991:611). However, it should be clear that there can be a clear distinction made between a strategy and a skill, although neither is completely

separated or detached from the other: there is an evident relationship and relationship between the two.

The work carried out on reading skills can sometimes be considered as an extension of the component approach to reading and the overall coherence of the field has been marred by inconsistent application of the term “skill” and the introduction of “strategy” often as an undifferentiated alternative, as asserted by Davis and Elder (2006). Sheorey and Mokhtari’s (2001) Reading Strategies Taxonomy (Table 5 below) shows that most of the reading strategies have a closer match with the reading skills taxonomies presented in tables 1, 2, and 4 below, which support the idea of an *undifferentiated* alternative. For example, in chapter 4 in the present study, the discussion about the identification and classification of reading skills *vis a vis* strategies, shows that, based on evidence, some of the skills in the tables 2, 3 and 4 match the homogeneous strategies in Sheorey and Mokhtari’s Taxonomy (Table 5). For example, skills 12 and 13 in Munby (1978) (Table 4), and 14 in Weir (1984) (Table 2), are condensed in the supply strategy 1 (note-taking) in Sheorey and Mokhtari’s Taxonomy; the metacognition strategy 4 in Sheorey and Mokhtari (2001) represent skills 1, 7 and 9 in Munby’s (1978) taxonomy, and 1, 3 and 5 (text structure recognition) in the Weir’s (1984) taxonomy.

Yet, Davis and Elder (2006) argue that that a skill can be regarded as ‘an acquired ability’, possibly acquired during the process of language acquisition and formal reading instruction. This ‘skill’ is believed to have been automatized and to be operating subconsciously in the reader. On the other hand, according to these authors, a strategy, it has been suggested, is a conscious procedure carried out by the reader in order to solve a perceived problem (Davis & Elder, 2006:587). One major problem with this suggestion is the one of the ‘*presence or absence of consciousness*’ during the reading process, which, according to Davies and Elder (2006), is difficult to detect, and the possibility exists that readers may achieve the same goal using either a strategy or a skill. Ultimately what is needed is for the reader, who is a language user, to be able to construe meaning, no matter whether he/she uses a skill or a strategy, and if both, all the better. For the purposes of the present study I will consider a combination of different taxonomies and attempt to correlate skills and strategies – the idea of the undifferentiated alternative (Davies & Elder, 2006).

More specifically, and according to Devine (1993), cited in Li and Errey's 2008 study, reading strategies include the reader's planning of how to approach the reading of a certain text, testing and revising ideas within the text and about its content, or deciding whether the speed of reading is adequate for processing a text according to the purpose for which the text is being read, and time availability. As has been mentioned, such strategies, sometimes referred to as approaches or orientations, are the learner's intentional plans for selecting and combining schema-based skills into routines; this finds corroboration in Pang's (2008) claim above. In this context it is important to know the different cognates used to refer to strategies and skills, and indeed all the differing classifications associated with them, particularly for purposes of the current study. I shall attempt to explore some of the views around the concept(s) of strategies and skills and their underlying classifications and/or groupings.

The concept of strategies has been developed in the work of Sheorey and Mokhtari (2001) and a complex yet easy to understand classification table was produced. Their work has added a new dimension to the types of strategies defined above, which they termed 'support strategies'. Support strategies, also known as 'supply strategies' (Jimenez et al., 1995, 1996), are basically support mechanisms intended to aid the reader in her/his quest to understand a text (Sheorey & Mokhtari, 2001). I will return to and elaborate on this issue in section 2.2.1.2. In a very detailed study, Rosenthine (1980) reviewed and classified comprehension skills using data from different sources ⁵(Shub, Friedman, Kaplan, Katien & Scroggin, 1973; The National Assessment of Educational Progress, 1973; Scott-Foreman, 1976; Aaron et al., 1976; Harris & Smith, 1976; Otto & Askov, 1974; Clymer, 1969; Davis, 1968, 1972). Although the commonality of comprehension skills is clear in Rosenthine's (1980) taxonomy, such skills, which I have summarised in Table 1, are classified by Rosenthine (1980) as follows:

⁵ See Barak Rosenthine, 1980. In Spiro, R., Rand J., Bertram C. Bruce & William F. Breuer (Eds.). *Theoretical Issues in Reading Comprehension*, Hillsdale, New Jersey.). Table 23.1 p. 536; Table 23.2, p. 538

Table 1. Skills grouping

No	Grouping	Type of skill
1.	Locating details.	<ul style="list-style-type: none"> • Recognition; • Paraphrasing; • Matching;
2.	Simple inferential skills	<ul style="list-style-type: none"> - Understand words within context; - Recognize sequencing of events; - Recognize cause and effect - Recognize relationships; - Comparing; - Contrasting;
3.	Complex inferential skills	<ul style="list-style-type: none"> - Recognize main idea/title/topic; - Draw conclusions; - Predict outcomes;

(Adapted from Rosenthine, 1980)

It should be noted here that the skills classified in the skills categories are the most representative for each one of the categories, and that there are other divisions and subdivisions between the groupings. It should also be noted that there is no fixed division between the categories, and some of the skills can be shifted across the groups to suit one's understanding and evaluation of the reading process, i.e. in terms of the relative simplicity or complexity of any given skill. For example, Rosenthine (1980) proposed that someone could shift and classify skills by recognizing cause and effect and recognizing relationships as complex inferential skills if longer segments needed to be read before a question can be answered. Other limitations and or constraints have been identified in Rosenthine's (1980) classifications. Apart from the problem related to the distinction of simple from complex inference skills, some of the skills do not appear in all the lists, thus suggesting the idea of uniqueness of skills to one particular grouping. However, the border between such groupings is not crystal clear. As testimony to that, Weir's (1984) proposed

list of reading skills (see Table 2) does not distinguish any groups, and as such he does not distinguish locating from simple inferential skills and neither does he distinguish simple inferential from complex inferential skills, or link these two to the first grouping.

Table 2: Weir's Reading skills Taxonomy

No	Type of skill
1.	Reference skills (using titles, punctuation, etc. and selecting by use of contents, index, etc.)
2.	Word perception, decoding (both through understanding sub-technical vocabulary and through being able to deduce meaning using contextual clues)
3.	Understanding relations within the sentence
4.	Understanding relations between parts of a text. (Using an awareness of grammatical and lexical cohesion devices)
5.	Understanding relations between parts of a text by recognizing indicators in discourse
6.	Understanding the communicative value of sentences with or without explicit indicators
7.	Understanding conceptual meaning
8.	Understanding explicitly stated ideas and information
9.	Understanding ideas and information not explicitly stated (through inference and understanding figurative language)
10.	Separating the essential from the non-essential in a text. (Distinguishing the main idea from supporting detail)
11.	Transcoding information presented in a non-linguistic form
12.	Skimming. (Surveying to obtain the gist of a text)
13.	Scanning the text to locate specific information
14.	Note taking. (e.g. Extracting salient points for summary)
15.	Critical evaluation (e.g. assessing the worth of a text and the organization of the information therein)

(Weir, 1984, adapted)

Learners at a tertiary level, i.e. university readers of texts in L1 and FL, must be able to apply most of the skills in the table above effectively when reading academic texts. It is crucial to point out, however, that, without adequate reading instruction, such readers will not be able to develop their ability to use these skills adequately or effectively, thus making it difficult for them to comprehend a text. As mentioned above, such skills have often been confused with strategies, thus making it, in most cases, difficult for the unaware or uninformed language or academic literacy instructor to play his/her role adequately. Thus a clear distinction between the two is useful for language instructors, when they help poor readers who make poor use of cognitive strategies, by improving their perception, usage and application of metacognitive strategies, i.e. helping them define an appropriate, useful and effective reading style.

According to Robbeck and Wallace (1990), skills are related principally to reading ability, while strategies are related to reading style. In the reading process, skills include decoding and analysing words that make up a text for identification. Once the reader has made the strategy decision that an inference is needed, the making of that inference is a skill. However, deciding whether to decode or to guess from context, or to use both of these skills at once would be a strategy. The use of both skills and strategies by the reader (learner) enables him/her to process the "encoded" message and thereafter extract meaning from it. Robbeck and Wallace (1990) described how readers use deep structure strategies when attempting to understand a text at its various levels of interpretation, and surface structure strategies when memorizing factual information for later recall. Ramsden (1988) found that most of the students in his study (adult L1 high and low ability readers and advanced competent L2 and FL readers) used surface structure strategies, though some were predisposed to deep structure strategies. For the present study, reading strategies will be understood as the conscious cognitive and metacognitive ability a reader possesses and his/her decision to apply intentional plans for selecting and combining schema-based skills into routines for their effective application, and self-evaluation of her/his own reading process when construing meaning from text.

Deep and Surface structure strategies are two of those approaches worthy of study and are derived from the original 1976 empirical research carried out by Marton and Säljö (1976). These approaches have since been elaborated by Ramsden (1988, 1992), Biggs (1987, 1993) and

Entwistle (1981), amongst others. The table below illustrates the differences between the nature of deep and surface structure strategies.

Table 3: Deep and Surface Structure Strategy features

Deep	Surface
Focus is on “what is signified”	Focus is on the “signs” (or on the learning as a signifier of something else)
Relates previous knowledge to new knowledge	Focus on unrelated parts of the task
Relates knowledge from different courses	Information for assessment is simply memorised
Relates theoretical ideas to everyday experience	Facts and concepts are associated unreflectively
Relates and distinguishes evidence and argument	Principles are not distinguished from examples
Organises and structures content into a coherent whole	Task is treated as an external imposition
Emphasis is internal, from within the student	Emphasis is external, from demands of assessment

(Based on Ramsden, 1988)

From the above it can be clearly understood that a deep structure reading strategy learner is one with a personal commitment to the learning process linked to the inner need of such a learner to reach a complete understanding of the subject material – a search for self-fulfilment (Biggs, 1993), whereas a surface structure strategy learner focuses on memorizing the main elements, has almost no use for, or exhibits no metacognitive skills, and aims at avoiding failure at school or in a test, and desires to minimize the effort expended on completing assigned tasks.

It should be said however, that a learner can use both strategies despite the learner being classified as either a “deep” or “surface” structure user. Being a deep or a surface learner does not necessarily mark him or her as possessing such characteristics as individual attributes: one person may use both approaches at different times, although she or he may have a preference for one or the other. For instance, Biggs’s (1993), in his teaching-learning model, believes that the student’s approach towards the learning process is a combination of the student’s motivation and the strategy that she or he adopts during the learning process. However, a fair relationship

between deep and surface structure strategies with motivation can be asserted here, i.e. deep with intrinsic motivation and surface with extrinsic motivation, and this is coupled with the predisposition of a learner to use either.

More specifically, as clearly described by Aharony (2006), the above mentioned characteristics of a deep structure strategy user, namely, the ability to relate new information to previously acquired knowledge, to study different aspects of the material in order to obtain the entire picture, and to search for a relevant meaning and a connecting point between the learning material and daily life and personal experiences. These characteristics, and the student's tendency to use metacognitive skills, can be used by the teacher/instructor to develop learning materials that create a basis for new ideas and offer other solutions from an inquisitive-critical perspective, and from there, enable the student to search and discover his or her 'inner self', which in turn holds out the possibility of developing him or her into an academically high achiever (Brown & Nelson, 1983; Bruch, Pearl, & Giordane, 1986; Entwistle & Wilson, 1977) and to maintain feelings of great satisfaction (Biggs, 1984, 1985).

In contrast to the characteristics listed above for a deep structure user, those associated with a surface structure strategy user such as the student's tendency to choose the quickest way to accomplish the task, to acquire the learning material without asking in-depth questions, to study the material in a linear manner, to relate to minimal aspects of the material, or to a problem, without showing interest in it, or the need to understand it in its entirety, to learn by rote by relying on memory and not on comprehension, and to be concerned with the time needed to fulfil the learning task (Biggs, 1993), constitute minimalistic and superficial learning. A significant probability exists that such a learner will not develop into an academically higher achiever - perhaps the opposite.

The distinctions and features of the reading and learning strategies mentioned above impels me to discuss other classifications of skills and strategies. Thus it is worth highlighting the distinction different scholars make between cognitive and metacognitive strategies, and skills. While it is accepted that cognitive strategies and metacognitive strategies are different from reading skills, the two different strategies have sometimes been used interchangeably, and thus one needs to be able to distinguish between these two types of strategies. Li and Errey (2008) in their study 'Shift in Chinese EAP learners' perceptions of reading strategies', point out that

cognitive strategies are about knowing what strategy to use and how to apply it to the reading process, whereas metacognitive strategic knowledge involves understanding the rationale for a particular context, and evaluating its usefulness in terms of appropriacy and effectiveness for that given context (Li & Errey, 2008:3).

In the early eighties Munby's (1980) taxonomy of reading skills (Table 4) provided the field of reading research and the teaching of reading with a comprehensive list of skills that have not only helped reading materials designers but also reading teachers with the difficult task of producing reading courses and materials as well as effective reading programmes for both first and second (FL) language reading. Munby's list of skills, taken from his *Communicative Syllabus Design* (1978) is on the whole not different from the lists of skills presented above (Tables 1 and 2). Most of the skills are the same. The distinctions lie in the wording, but they essentially propose the same reading skills as those in Weir's (1984) taxonomy and Rosenthine's (1980) groupings. A lack of groupings and/or clear divisions between the various reading skills can be overcome by a provision of a number of appropriate exercises to develop learners' skills, namely question-types with two different aims or functions to lead the student to: (i) to clarify the organization of the passage and (ii) to clarify the contents of the passage (Grellet, 1990:3), with the stated aim of developing students into effective readers.

Table 4 Munby's Reading Skills Taxonomy

No	Type of skill
1.	Recognizing the script of a language
2.	Deducing the meaning and use of unfamiliar lexical items
3.	understanding explicitly stated information
4.	understanding information when not explicitly stated
5.	understanding conceptual meaning
6.	understanding the communicative value (function) of sentences and utterances
7.	understanding relations within the sentence
8.	understanding relations between the parts of a text through lexical cohesion devices
9.	understanding cohesion between parts of a text through grammatical cohesion devices
10.	interpreting the main point or important information in a piece of discourse
11.	distinguishing the main idea from supporting details
12.	Extracting salient points to summarize (the text, an idea, etc.)
13.	selective extraction of relevant points from a text
14.	basic reference skills
15.	Skimming
16.	scanning to locate specifically required information
17.	transcoding information to diagrammatic display

(John Munby, 1980, adapted)

Munby's 1980 and Weir's 1984 taxonomies have probably provided a strong basis for many books and articles written on distinguishing between different readings skills and, from this, between reading skills and reading strategies, for example, the elaborated framework for reading strategies developed by Sheorey and Mokhtari (2001) and widely used in many research studies on first, second and foreign language reading over the last decade.

In comparison to the above-mentioned skills taxonomies, Sheorey and Mokhtari's (2001) reading strategies classification table is more sophisticated and comprehensive in the sense that one can clearly distinguish between the different types and classes of reading strategies, unlike previous classifications of reading skills. Sheorey and Mokhtari's 2001 taxonomy (Table 5), which evolved from the initial work done by Mokhtari (1998-2000)⁶, and further developed in subsequent works, clearly shows the difference between cognitive and metacognitive reading strategies.

Similar to Li and Errey (2008), Sheorey and Mokhtari (2001) define cognitive strategies as the actions and procedures readers use while working directly with text. Such strategies are localized and focused techniques that are consciously utilized by a reader when she or he encounters problems with understanding textual information, while metacognitive strategies are intentional, carefully planned techniques that the reader utilizes to monitor or manage his/her own reading. This process entails a pre-established purpose in the reader's mind, involving previewing the length and organization of the text. The process also entails the use of typographical aids and tables and figures, important for a reader's evaluation and/or analysis of text structure before and during the reading process in order to construe meaning. This issue will be covered in more detail in Chapter 5.

Sheorey and Mokhtari (2001) classify metacognitive and cognitive reading strategies into 10 and 12 items respectively, which include 5 support strategies. The table below clearly shows these classified items and it is evident that aspects, such as the adjustment of one's reading speed to meet difficult or easy information in a passage, guessing the meaning of unknown lexical items, and repeated readings, are related to the cognition process.

⁶ Mokhtari SORS – *Survey- of- Reading- Strategies* (2002) is an instrument used to discover reading strategies purportedly used by post-secondary non-native students of English. This instrument is based upon the *Metacognitive-Awareness- of- Reading- Strategies- Inventory* (MARSI), originally developed by Mokhtari as a tool to measuring native English speaking students' awareness and use of reading strategies while reading academic or related school materials. The tool is very clear in distinguishing the different categories of reading strategies. I have used part of this tool in my chapter 6 on the cognition and metacognition reading strategies purportedly used by learners to construe meaning. The named strategies in Sheorey and Mokhtari's SORS were adapted into statements reflecting reading strategy usage which were designed borrowing insights from a study by Lynn Errey and Huijie Li (2008).

Table 5 Sheorey and Mokhtari's Reading Strategies Taxonomy

Name.	Type of strategy
MET1	Setting purpose for reading
MET2	Previewing text before reading
MET3	Checking how text content fits purpose
MET4	Noting text characteristics
MET5	Determining what to read
MET6	Using text features (tables, figures)
MET7	Using context clues
MET8	Using typographical aids (italics)
MET9	Predicting or guessing text meaning
MET10	Confirming predictions
COG 1	Using prior knowledge
COG 2	Reading aloud when text becomes hard
COG 3	Reading slowly and carefully
COG 4	Trying to stay focused on reading
COG 5	Adjusting reading rate
COG 6	Paying close attention to reading
COG 7	Pausing and thinking about reading
COG 8	Visualizing information read
COG 9	Evaluating conflicting information
COG10	Resolving conflicting information
COG 11	Re-reading for better understanding
COG 12	Guessing meaning of unknown words
SUP1	Taking notes while reading
SUP2	Underlining information in the text
SUP3	Using reference materials
SUP4	Paraphrasing for better understanding
SUP5	Going back and forth in the text

(Sheorey and Mokhtari, 2001)

Looking at Tables 2, 4 and 5 above one can say that skills 12 and 13 in Munby's taxonomy, and 14 in Weir's taxonomy are condensed in the 'supply' (support) strategy 1 in Sheorey and Mokhtari (note-taking); the metacognition strategy 4 in Sheorey and Mokhtari represent skills 1, 7 and 9 in Munby, and 1, 3 and 5 in the Weir taxonomies (text structure recognition), to mention a few. A much more detailed comparison is presented in those tables that reveal the identified strategies/skills taught at UEM through the analysed textbooks (see chapter 4).

The 10-12-5 item classification table by Sheorey and Mokhtari concerning reading strategies has a particularity that most taxonomies do not include or discuss, that of support strategies. When reviewing literature on skills and strategies I came across the term *supply strategies* (Jimenez et al., 1995, 1996) and later the expression, *support strategies* (Sheorey & Mokhtari, 2001; Karan, 2012). Taking a closer look at Sheorey and Mokhtari's classification I realized that these individual support strategies are distinct. According to these scholars, support strategies are basically support mechanisms intended to aid the reader in her/his quest to understand a text. Thus, apart from the entire apparatus of cognitive and metacognitive strategies, coupled with reading 'skills', the reader has an extra mechanism to which to resort in order to construe meaning in a much more effective manner. As can be observed from Table 5 above, this group of strategies entails the use of tools such as dictionaries, note pads to jot down notes while reading, and underlining or highlighting parts of the text - single words, short segments, whole sections - to better comprehend a text. There are five items in the taxonomy. Some of the proposed strategies coincidentally match with some of the skills proposed by the proponents of 'skills' taxonomies. For instance, note taking (SUP 1) is clearly in the list of Weir's skills (item 14); SUP 4 may possibly find a match in items 12, 13 and 17 in Munby's list. Further analysis is needed to determine how different and or distinct these support strategies are from the skills and strategies proposed. What is evident at this stage is that skills and strategies, no matter how you refer to them, have very close links, as has already been suggested above with the idea of *undifferentiated* alternative (Davis & Elder, 2006). Despite this categorising of reading strategies and skills, what is most important is that readers, first- or second-language or even foreign-language readers, must be equipped with these *automatized* or *conscious* means (tools) to be able to construe meaning, hence text comprehension. I believe that a more comprehensive understanding, or a clear distinction of skills, strategies and any related matters, is of the utmost

importance to achieving the aim of the present study. I intend to identify those reading strategies used by L2 tertiary level students.

2.2.1.2. Reading support strategies used when reading in a FL

According to Jimenez et al. (1995, 1996), proficient bilingual and biliterate readers use what they call “supply strategies” (clearly different from the ones defined by Sheorey and Mokhtari (2001) in their L1 model as described above), such as code mixing, translation, and use of cognates while reading a text. Jimenez et al. (1995, 1996) considered at the time these strategies be possibly, unique and unprecedented but particularly useful for reading in a second language. Sheorey and Mokhtari (2001) revealed that ESL readers (like their US counterparts) show an overall moderate use of reading strategies with a trend showing 10 of the 28 strategies in their taxonomy (35%) falling in the high usage group, the remaining 18 strategies (64%) indicating medium usage and no low frequency for any of the strategies. Grabe and Stoller (2002) have affirmed that good FL readers seem to go to lengths to mimic and approximate their linguistic proficiency and repertoire of skills and strategies to those found in a good L1 reader. The question arises as to whether this is the case with all good FL language readers, irrespective of context, knowledge background and L1, or non-cognate language. Nassaji (2011) sees Bernhardt's (2005) compensatory second language reading model as the one L2 reading model that recognizes and attempts to explain L2-specific reading processes. Grabe (2002) also mentions Bernhardt's (1991, 2000) model, but because of its being ‘vague in its specification of the processes involved in reading’ as he puts it, Bernhardt’s 2005 model is seen by Grabe as one presenting ‘an inter- active compensatory version of the model that attempts to deal with some of the limitations of the earlier model’.

Nassaji (2011) describes the appropriateness of Bernhardt’s 2005 model to L2 reading processes:

[The model] provides an integrative, three-dimensional conceptualization of the L2 reading process that not only takes into account the complex interactions of various textual processes (i.e., word recognition, graphophonic, syntactic) and intratextual variables (e.g., prior knowledge, strategies), but also encompasses a number of L2-specific factors that are absent in L1-based models, such as L2 proficiency, differences in syntactic and vocabulary knowledge, and L1-L2 linguistic distance. (Nassaji, 2011:175).

Nassaji also suggests a review of Bernhardt's 2011 work, which complements many of the issues mentioned above. As proposed in Chapter 1, I intend to use this model to position and explain my findings because, among other features, the model makes an attempt to 'capture the interplay of readers' L1 literacy skills and L2 knowledge sources over time' (Nassaji, 2011:175). One other advantage of this model is that it allows us, with a high probability, to understand those additional sources of variance in L2 reading ability not explicated in L1-based models. In the following section I discuss reading in a foreign language and identify the specific reading abilities, reading skills and strategies, and issues related to the linguistic competence of these readers in understanding and constructing meaning of texts in terms of how these are linked to L2 readers' knowledge of the target language.

2.3. Reading in a Foreign Language (FL): the theories and empirical studies

Such is the extent of studies and theoretical work in the field of reading and reading in a second or foreign-language that it is difficult to venture into this research and theory field without being repetitious. Therefore, in the present study, in reviewing reading in a foreign language I focus on reading abilities, reading skills and strategies and other issues related to linguistic competence. I fully agree with Bernhardt's (2003) view that the mere existence of a first language, regardless of whether it is only oral, or oral and written, renders the second-(foreign) language reading process markedly different from that of the first language reading process (Bernhardt, 2003:112). This is due to the nature of the type of data stored in the memory of the user (learner) of either language. Hence, the way reading will occur and meaning construed will depend to a large extent upon what the learner/reader knows about the target language and associated knowledge/information.

Initially the research in reading provided us with a picture of 'sameness' in terms of reading (in L1 and FL), as described in the work of Bernhardt (2003). In fact, as has been mentioned, early work on reading in multiple languages presented the idea that the process of L2 and FL reading was fundamentally the same as that in a first language, that the behaviours of fluency on the surface of both first and second languages look 'fundamentally the same'. However these studies did not take into account that there were different cognitive processes involved as mentioned in the 19th century in Javal's (1879) work on reading behaviour of second-language readers and

Cattell's (1885) work on the processing of languages by L2 and FL speakers as being different from that in the mother tongue, and the later work of Jud and Buswell (1922) on second language reading (Bernhardt, 2003:112). With time, such claims have been overridden with the development of the need for researchers and teachers to understand and accommodate readers across multiple languages (Goodman, 1968).

As mentioned earlier, my intention is to return to the question, '*Is it a reading problem or a second language problem*'? - an issue discussed by Alderson (1984). In an attempt to answer this question I pose additional questions: How do FL readers become fluent, competent and high ability readers? Do they use the same skills and strategies as their L1 counterparts? Does language and skills transference take place even in the presence of non-cognate language? And, more specifically in terms of this study, what is the case with Portuguese L1 (or simply L2, L3, depending on the case for each participant) speakers within a context of an array of languages and multimodal approaches? Perhaps, as Bernhardt (2005) touches on, and I would emphasise, the question might not have to do with language and literacy skills transference, but with how many, and to what extent, these are transferred, or should be, under what conditions, and in which contexts? The question is not one of identifying a linguistic threshold (if measurable) but one involving the clarification of the relationship of linguistic knowledge to literacy knowledge to individual/idiosyncratic knowledge and experience.

Jolly's (1979) claim that learners' success in reading a foreign language depends primarily upon their first language reading ability rather than upon their level of English is justified in the sense that reading in a foreign language requires "the transferability of old skills, not the learning of new ones" (Coady, 1979). However it is not totally clear which specific skills transfer during this process. Coady (1979) asserts that foreign language reading is a reading problem and not a language problem. Coady's view finds support in Goodman's (1973) work, in which he posited the 'reading universal hypothesis'. Although indirectly, Goodman's view, which is strengthened by work in EFL (see, for example, Rigg, 1977), is that, once learners have matured in their ability to read in their first language, they are able to transfer their awareness and knowledge of the reading process to reading texts in the second language. There might be less clarity regarding this process in a context where the second language referred to above may be a third or a foreign language, as is English in the context of my research. Then there is also the chance that in such a

context a Bantu language (non- formally taught and learned) is the first language, in which case how could or would the inherent matured ability to read be transferred in the case of students at UEM for instance? They do not learn how to read in their mother tongue, but in a second one, Portuguese. The question arises as to whether this entails the transfer from L2 to FL, that is, in my context, from Portuguese, which is, for most participants in this study, their second language, to English. An additional factor influencing this reading process is that they are not print literate in their L1. Their contact with literacy learning occurs in primary school when they are six years or older, when they start to learn Portuguese as a language, and in Portuguese as the medium of instruction rather than in one of the already orally '*mastered*' Bantu languages⁷. At present in Mozambique they start to learn English as a subject at the age of 11 or 12, or sometimes only at tertiary level. The question then is, would a non-literate first language (a Bantu language in my context), mastered orally, provide sufficient foundation for the transference of any reading strategies and abilities to reading in a second language (first literate language, Portuguese), and then to a third or foreign language (English)? Several researchers in the seventies were of the view that the learnt reading ability does not need to be relearned in a second language (Rigg, 1977; Gamez, 1979; Goodman, Goodman Flores, 1979). Based on their theories, how would the above questions be relevant and applicable if an individual becomes literate in a second language? Will this individual transfer this ability to a third or a foreign language? And what role would the orally mastered first language play in the whole process? Clear answers to all of these queries are hard to find.

A comparative study on non-native speakers with an extensive education background in English, and who had been taught in the English medium at school, versus readers who were the opposite, i.e. "practiced" versus "unpractised" readers in English, concluded that the problem was not syntactic knowledge (tense, modals, adverbials, etc.) but vocabulary knowledge (Cooper, 1984). The "unpractised" were disadvantaged by a poor knowledge of vocabulary, knowledge of lexis, and a weak understanding of common connectors in sentences; thus, unlike the "practiced" readers, the "unpractised" readers were unable to use linguistic cues in larger contexts to deduce word meaning, lexical relation, and meaning relation between sentences, whereas the "practiced"

⁷ Recently there has been a bilingual primary education program in trial in the country which may in the future lead to children being literate first in their mother tongue, i.e. L1, more specifically one of the Bantu languages, where one of these is the mother tongue of the region in which the primary school is located.

readers had a highly developed lexical background rather than syntactic competence. In this context once again the notion of linguistic competence or language competence - the idea of a language threshold - comes into play.

Reading ability in a foreign language seems to be partly the result of proficiency levels in a given language. Here the idea of a minimal threshold of proficiency (Cummins, 1979) in a language is necessarily prior to the transference of a competent reader's first language reading strategies to reading in the second language (Clarke, 1979; MacNamara, 1970; Cziko, 1980). This hypothesis is known as the 'Language Threshold' or the 'Language Ceiling', or even the 'Short Circuit' hypothesis of second/foreign language reading (Carrell, 1991:160). In Alderson's 1984 attempt to answer the question 'Reading in a foreign language: a reading problem or a language problem?' the language threshold hypothesis was discussed and shortcomings regarding the methods applied in some of the studies were identified, (Uljin, 1978; Clarke, 1979; MacNamara, 1970; Cziko, 1980), such as how and what is used to measure this threshold level and at what point one knows that someone has reached such a language ceiling level. Alderson (1984) shows that poor reading ability in a foreign language is not necessarily a problem of poor vocabulary knowledge (Uljin, 1978) but of conceptual knowledge - the meaning of propositions, syntax, semantics, etc. - and subject knowledge. These are associated with the construction of meaning, or text comprehension. The relationship between text comprehension and reading is that reading comprehension is considered to be a complex behaviour which involves the conscious and unconscious use of various strategies on the part of the reader, including problem-solving strategies, in order to build a model of the meaning which the writer is assumed to have intended (Johnston, 1983:17, in Carrell, 1991:161). Here it is clear that foreign language reading is not merely a problem of language, i.e. lack of vocabulary, language knowledge, syntax, register and so on. It extends beyond the reader's language proficiency level. It goes beyond such an assumption and entails the use of those reading strategies and reading skills which help in the construction of the model of the meaning intended by the creator of a text, and this can be built by the reader using schematic knowledge structures and various cue systems provided by the writer. Cues such as words, syntax, macrostructures, and social information are components of the systems mentioned. Further, in the EAP/EFL field, one could add to the list variables such as field knowledge, register, genre, skills and strategy usage (this might be different in FL when

compared to those purportedly and effectively used by L1 and L2), all of which might come into play in reading.

According to Johnstone, cited in Carrell (1991), most of these issues must be inferred, since text is not fully explicit and generally there is very little information that is explicit, given that appropriate intentional and extensional meanings of words must be inferred from their context. Such an exercise I believe entails the use of specific reading strategies and/or skills.

Research on second and foreign language reading has been rapidly expanding and has resulted in a much wider platform of debate than that in the last century. Despite this expansion, very few research studies have concentrated upon documenting the types of metacognitive reading strategies of proficient native and non-native readers. In fact, according to Mokhtari and Reichard (2004), there is virtually no research which investigates the metacognitive awareness and use of reading strategies by proficient college students, or university students in our context, studying in different social, cultural and linguistic contexts. Further, most of the research concerning reading strategies of second and/or foreign language readers has dealt with students at lower levels of proficiency, or those enrolled in secondary and pre-university schools (see Sheorey & Mokhtari (2001) as well as Knight et al. (1985), Block (1986, 1992), Carrell et al. (1989), Pritchard (1990), Anderson (1991); Zhicheng 1992, and Auerbach and Paxton (1997). This clearly shows the lack of research on reading strategies of advanced or proficient second language (FL) readers. Reading problems are closely associated with the level of proficiency in the target language [English]' (Sheorey & Mokhtari, 2001:434).⁸, and as such these need to be engaged with.

Building on the above theoretical debates, I now look at some of the studies that have been carried out to validate claims related to reading in a foreign language, and at the use of certain reading strategies in both L1, ESL-EAP and FL. It is worth mentioning at this point that the

⁸ However, I would partially disagree with this, given that some of the research that has involved such a category of students, i.e. those students at an advanced level of proficiency, may not have been published through the right channels. One example is a case study I made that analysed such students in an environment other than their own (Mozambique, Africa), i.e. in the UK. One of the students was considered to be proficient in the foreign language (English) (Cabinda, 1996). Yet, since the results of studies such as mine have not been widely publicised, there is a high degree of truth in Mokhtari and Reichard's words.

English for Academic Purposes (EAP)-English for Specific Purposes (ESP) dichotomy and relationship, a thread running throughout this study, should be envisioned, not as a new concept, but rather a result of ESP being the birthplace of EAP. EAP is generally conceived of simply as the teaching, or developing of proficiency in English with the specific aim of facilitating study or research written in English to be carried by learners in the English language in educational institutions at all levels, but mainly at university level, and, according to Hyland and Hamp-Lyons (2002) ‘encompasses different domains and practices’ that ‘conceal as much as they reveal, i.e. study-skills teaching, but also a great deal of what might be seen as general English as well’.). These authors are of the opinion that EAP ‘*has emerged out of the broader field of ESP, a theoretically and pedagogically eclectic parent*’ with a different purpose, that of being committed to ‘*tailoring instructions to specific purposes*’ (Hyland, & Hamp-Lyons, , 2002, my emphasis). The terms ESL or EFL are used interchangeably only when specifically mentioned. As has been mentioned, given that a L2 – second language - can also be considered a FL – foreign language - in certain contexts, I will, for the sake of consistency and the multilingual context of the present study, use L2 and FL to mean ESL or EFL when reference is made to the participants in the present study.

2.3.1 Empirical Studies

Studies such as those conducted by Mokhtari and Reichard (2004), and Sheorey and Mokhtari (2001), have presented us with some interesting insights into reading in a foreign language and the reading strategies and reading skills specific to these readers. As has been mentioned, Mokhtari and Reichard’s (2004) metacognitive reading strategies and the use of reading strategies by L2 and FL readers’ studies show a relationship between language proficiency and cognitive/metacognitive reading strategies.

As has been mentioned, and whose classification is illustrated in Table 5, a number of cognitive and metacognitive reading strategies were identified among first and second-language readers of English (Sheorey and Mokhtari, 2001; Mokhtari and Reichard, 2004; Schoonen et al., 1998; Stevenson et al., 2003). These include setting the purpose for reading, prediction, summarising, questioning, use of text structural features, self-monitoring and so on, that learners use to a lesser

or greater degree to consciously plan, control and evaluate their own understanding of text, i.e. strategies that regulate learners' own reading processes and the processing of meaning. Earlier work on the same issue (Jimenez et al. 1995, 1996) noted that proficient bilingual and biliterate readers also used 'supply strategies' such as code mixing, translation, and the use of cognates. These supply strategies are believed by several researchers in the field to be possibly unique to, and particularly useful for, FL readers for reading in a second language. In a study involving Chinese proficient university students, for example, in which both easy and difficult reading materials were used, it was found that these types of readers invoked wide-ranging supply strategies while reading in English and in Chinese (Feng & Mokhtari, 1998). The study also revealed that the subjects applied more reading strategies while reading in the second (FL) language than in their first language (L1), Chinese and that the frequency of use of reading strategies was higher when reading difficult texts than when reading easy ones. This conclusion finds corroboration in other similar studies of English and Spanish bilingual ESL readers⁹ (Calero-Breckheimer & Goetz, 1993; Jimenez et al., 1995, 1996) cited in Mokhtari and Reichard (2004:381).

The key issue investigated by Calero-Breckheimer and Goetz (1993), and Jimenez et al. (1995, 1996) was how bilingualism and biliteracy in English and Spanish – the closest language to Portuguese - affected metacognition. More specifically, the 1995 Jimenez et al. study sought to find out what their subjects knew about their reading processes and use of reading strategies across two languages. The study also involved an attempt to understand the use of 'while reading' strategies, and the conditions under which such strategies were invoked by the readers. The study, using a mix of methodologies, i.e. think-aloud (a methodology which is used in the current study), interviews, and measurement of prior knowledge and recall yielded significant results. The results can be summarised as follows: (i) that successful bilingual readers showed a unitary view of reading. In other words, they could recognize many of the similarities that exist between reading in both languages, English and Spanish; (ii) almost all successful bilingual readers were aware of several reading strategies, though with some limitation related to using a number of strategies, namely cognates, code-switching and translation and (iii) these successful

⁹ See the Sheorey and Mokhtari (2001) study with American and ESL students.

bilingual readers demonstrated awareness regarding ‘transference of knowledge’ across languages (Garcia et al., 1998, in Mokhtari and Reichard, 2004) Here students showed that they knew that the knowledge and strategies learned in one language could be applied to help understand and/or construct meaning from a written text in a different language. As for the readers with inverse skills, i.e. less successful bilingual readers, the study showed that, unlike their successful counterparts, these students did not have a unitary view of reading. These less successful bilingual readers saw the two languages in question as a set of individual items without any links and consequently unworthy of using the same and/or similar reading strategies (such as cognates, code mixing and translation) to construe meaning.

Similar claims about the sameness of the reading process across languages had been previously made: ‘if [...] basically the same in all languages we would logically expect good native readers to maintain their advantages over poor readers in the second language’ (Clarke, 1979, cited in Alderson, 1984:3). However, in some cases, the strategies used in the reading process in L1 and L2/FL may be language specific (Potter 1982). This contradicts to some extent the idea of the ‘unitary view of reading’ (Garcia et al., 1998, in Mokhtari and Reichard, 2004:381). Other aspects investigated by Potter (1982) included whether good and poor readers used different strategies when making use of the linguistic context, and in particular whether good readers made better use of the succeeding context by applying a better strategy, or whether good readers did so simply because of their superior knowledge. The results of the study failed to show whether good readers used better strategies than poor readers. It also failed to draw conclusions as to whether good readers used the same strategies as those used by poor readers more efficiently and skilfully. Notwithstanding such inconclusive results, some of them did in fact support the hypothesis that good readers make better use of the succeeding context than do poor readers.

Brunfaut’s 2008 extensive and complex study of a number of variables in L1 and FL reading, aimed to identify the *main contributing factors* to successful reading and comprehension, and their *relative contribution* to foreign language academic reading, and to explore *the relation between foreign language and first language academic reading comprehension* reviewed. The three-dimensional classification scheme of Stevenson et al. (2003) to investigate (potential) differing strategy use in L1 and FL looked at 1) the orientation of processing, i.e. the use of

strategies that are content-oriented or strategies that are language-oriented, 2) the type of processing, i.e. the use of strategies that regulate the reading process (planning, monitoring, evaluating), the use of strategies that concern the processing of meaning (paraphrasing, translating, summarizing, elaborating) or the use of the cognitive interactive strategy of rereading a text, and 3), the domain of processing, i.e. the use of strategies for below-clause, clause or above-clause level textual elements. The study, using think-aloud tasks on two argumentative texts per language with differing levels of difficulty, involved monolingual and bilingual (university students who were both English and Dutch L1 speakers) Dutch students. These were selected and divided into high reading proficiency and low reading proficiency categories.

As with the results discussed above, there are some similarities in the awareness of strategies and their usage by first and second (FL) language students. The general finding of Stevenson et al. was that the *kinds* of strategies used by the pupils were very similar in both L1 and FL, but that the *frequency* with which those strategies were used differed across languages, as Feng and Mokhtari (1998) had earlier observed. With regard to the first dimension of ‘processing orientation’, Feng and Mokhtari found that the pupils used a higher proportion of language-oriented strategies such as the use of translation when reading in the FL as compared to their use of such strategies when reading in L1 (Sheorey & Mokhtari, 2001; Mokhtari & Reichard, 2004; Schoonen et al., 1998; Jimenez et al., 1995, 1996). In terms of the ‘type of processing’ dimension, they found that the pupils used a higher proportion of regulatory strategies when reading in the FL as compared to reading in L1 (mainly due to their frequent evaluation of lack of understanding of language, more often mentioned by the low reading proficiency group) (see conclusive findings by Garcia et al. (1998) cited in Mokhtari & Reichard (2004:381) related to less successful bilingual readers). For the third dimension, i.e. ‘processing domain’, Stevenson et al. found that, in contradiction to the commonly held conviction that pupils focus more on individual words when reading in an FL, the pupils focused on larger chunks of text when reading in the FL (mainly because they translated and paraphrased more often at above-clause level). These findings, in my opinion, may be in consonance with the idea of a unitary view of reading mentioned above. However, as also stated above, this unitary view is true for successful bilingual readers, i.e. proficient readers.

Perhaps, it is time to bring in a different and an additional dimension to the present discussion by looking into other aspects of what makes a good reader and what makes a bad reader in the L1 and the FL, also referred to as L2 in some studies. Such an angle, one of the several attempts to produce an adequate picture of what makes a good reader¹⁰, is without doubt linked to cognitive and metacognitive strategic competence. As posited by Carrell et al. (1998:101), metacognition is not detached from cognition, and consequently key factors in metacognition, knowledge, and conscious control of the reading process by the reader, are ‘concerned respectively with what readers know about their cognitive resources and their regulation.’ Here, regulation in reading should be understood as the awareness of, and ability to, detect contradictions in a text, the possession of knowledge of different strategies to use with different text types, and the ability to separate important from unimportant information.

I would argue, and venture to affirm, that reading from this perspective is both a metacognitive and a cognitive process, a perspective, which needs to be taken into account when any study aimed at understanding reading in any context, attempts to distinguish good readers from poor readers, with a high degree of emphasis in the FL context.

Pang’s (2008) study on the characteristics of good and poor readers, and the implications for L2 reading research in China, summarised the features of a good reader in a table. I have borrowed and adapted the content of the table below to the present study and presented it in a ‘parallel view’ with the aim of providing a reading model that is not a *top-to-bottom* one, but a levelled one, i.e. a transversal rather than a vertical reading model: the dimensions should be looked at as happening simultaneously rather than one after the other in linear fashion. One does not precede the other but, I believe, occurs transversally.

¹⁰ A picture of a good reader will vary according to study and one’s perception of reading and the pre-requisites that a reader should possess in any given context. Studies such as those by Grabe, W., & Stoller, F. L. (2002), Carver, R. (1992), J. C. Alderson (84, 91, 2000), Potter (1982), Clarke (1979), Takahashi (1975) have discussed this issue, and a variety of factors have been identified as playing a role in the endeavour to distinguish a good reader from a poor reader. However, no clear outstanding picture of what a good reader is has been put forth, rather a combination of variables that might have resulted in a number of different ‘pictures’.

Table 6: Profile of good readers

Dimensions and Characteristics		
Language knowledge and processing ability	Cognitive ability	Metacognitive strategic competence
<ul style="list-style-type: none"> • Automatic and rapid word recognition (e.g., Booth et al., 1999; Just & Carpenter, 1987; Nassaji, 2003; Perfetti, 1985; Pressley, 1998) • Automatic syntactic parsing and semantic proposition formation (e.g., Chen, 1998; Fraser, 2004; Liu & Bever, 2002; Lu, 1999) • Reasonable size of vocabulary ranging from 10,000 to 100,000 (e.g., Alderson, 2000; Barnett, 1986; Carver, 1993; Grabe & Stoller, 2002) • Awareness of text type and discourse organization (e.g., Beck et al., 1991; Brantmeier, 2004; Carrell, 1992; Commander & Stanwyck, 1997) 	<ul style="list-style-type: none"> • Good store of cognitive strategies (e.g., Block, 1986; Carrell, 1985, 1992; Grabe, 1999) • Ready access to variety of purposeful strategies (Hopkins & Mackay, 1997; Long et al., 1996; Yang & Zhang, 2002) • Higher and proficient use of strategies (Anderson, 1991; Grabe & Stoller, 2002; Haenggi & Perfetti, 1992; Reynolds et al., 1990) • Effective use of prior knowledge (e.g., Bernhardt, 1991; Chen & Groves, 1995; Haenggi & Perfetti, 1992) • Supportive use of mother tongue in L2 (e.g., Kern, 1994; Upton & Lee-Thompson, 2001) 	<ul style="list-style-type: none"> • Good knowledge of cognition (e.g., Carrell et al., 1998; Gregory, 1994) • Competence in monitoring comprehension process (e.g., Karen & Evans, 1993; Yang & Zhang, 2002) • Competence in evaluating and regulating strategy use to achieve maximum comprehension (e.g., Gregory, 1994; Karen & Evans, 1993; Long & Chong, 2001)

(adapted from Jixian Pang, 2008:11)

According to Pang (2008), good readers are strategic, and strategic readers are able not only to use various strategies skilfully, but also to monitor and regulate their strategy use with reference to the on-going comprehension process (2008:9). Although there are differences in the reading processes in L1 and L2 (see Grabe & Stoller, 2002), more than a few characteristics are shared between the two types of good readers. Most of the cases show that a good FL reader appears to make every effort to approximate his/her linguistic proficiency and repertoire of skills and strategies to those of a good L1 reader. Pang's profile of good readers (see Table6), based on the interpretation of a wide range of literature on the subject, acknowledges the similarity of

characteristics between good L1 and L2 readers. He argues, however, that the demands placed on such readers in order to reach the goal of being good readers are different.

In the case of L2 readers, such demands include the possession of a sound target language base, a variable that is less strenuous to acquire for L1 readers. According to Pang, L2 readers need to cross the so-called ‘language threshold’ to be able to develop and apply cognitive and metacognitive strategies in the L2 reading context. The aspect of threshold is mentioned above but not discussed in any detail. Maturity is another aspect mentioned by Pang (2008:10) in his study, in the sense that L2 learners, i.e. FL readers in this study, are, in most cases, mature adult individuals. He goes on to mention that such readers will be ‘able to take advantage of being conceptually well-developed adults and make full use of the cognitive and metacognitive strategies’ (Pang, 2008:10). The above suggestion finds corroboration in Yorio's (1971) view and is strengthened by Rigg's (1977) work in EFL. This view posits that, once learners have matured in their ability to read in the first language, probably at an age where the reader may no longer be considered a child, the awareness of the reading process is transferred to the second language, i.e. foreign language. Here it is believed that such ability does not need to be relearned in the second language (Rigg, 1977; Gamez, 1979; Goodman, Goodman & Flores, 1979); but instead, I would suggest, would be enhanced. Once at the mature reading stage, readers, who would have acquired cognitive and metacognitive strategies and skills during their development process and formal instruction phase in the L1, can use these assets to their advantage, and be able to compensate for the possible deficiencies in their L2/FL reading, in order to achieve maximum comprehension in their reading¹¹.

Yang and Zhang's (2002) study clearly shows the relationship and relationship between metacognition and EFL reading comprehension. Their study involved adult Chinese college students in the third year of a graduation course. A total of 125 students (N = 125) participated in the study. Variables such as metacognition, EFL reading comprehension, and EFL proficiency,

¹¹ See Bernhardt's 2005 paper on ‘*Progress and procrastination in Second Language Reading*’ for a detailed discussion. Also see Carrell, P., Devine, J., and Eskey, D. E. (Eds.) (1988) , Stanovich (1980) .These particular works have not been largely discussed in the present study, but others who have proposed reading models that are classified as interactive, namely, Bernhardt's (2001), Hoover and Tunmer (2003). Other reading models, top-down, bottom-up, and componential approaches to reading have been briefly presented (see Chapter 2, section 2.1).

were studied and results showed that readers' general EFL proficiency correlated with their reading comprehension ability at .50 ($p < .01$), and that their metacognitive knowledge correlated with their reading comprehension ability at .42 ($p < .01$). These results indicate a positive relationship between metacognitive knowledge and reading comprehension proficiency. Further, good readers displayed more self-monitoring ability than poor readers during the reading processes, i.e. good readers monitored the reading processes all the time to compensate for previously non-decoded lexical items. Poor readers seemed to be less sensitive to inconsistencies in the text than were good readers, and the latter responded in a more adequate manner to these inconsistencies. Yang and Zhang (2002) came to the conclusion that the participants' English language proficiency and metacognitive awareness affected their reading comprehension ability and that their metacognition had an impact on both EFL proficiency and EFL reading performance. Given the context, Chinese college EFL readers, the study concluded that good L2-EFL readers need not only a sound basis in the foreign language but also need a high degree of metacognitive awareness in order to construe meaning from text, i.e. achieve comprehension, more efficiently and effectively. These conclusions draw on in my own research (chapters 5, 6 and 7) and I draw parallels with the Yang and Zhang study.

2.4 Reading in an EAP context

In his 2000 book, Alderson reminds us of one clear conclusion that can be drawn from studies in ESP-EAP or ESL and FL (Carrell, 1991): that for an ESL or FL student, second-language knowledge is more important than first-language reading ability, and that a linguistic threshold exists which must be crossed before first-language reading ability can be transferred to a second-language reading context. The ESP-EAP field has its specific language which is embedded in the Cognitive Academic Language Proficiency concept. The CALP concept (Cummins, 1979) has specific features: (i) simplified contextualisation, (ii) focus on verbal and spoken language, (iii) abstractness and (iv) high literacy demand. Like EAP, Language for Academic Purposes (LAP) is another designation of language used in an academic environment. In the same manner as EAP, LAP is subdivided into subtypes which are very field specific, for example, science and technology, medicine, management, finance and economics, and legal matters. Dudley-Evans & St John (1998) provide a thorough ranking for Language for Academic Purposes and this can be

used as reference for further analysis. Clearly there is a system of classification of different language types for EAP-ESP, but how such language is imparted to the readers is a different matter. It is important that textbooks and methodologies produced for the teaching of this language type take into account the different contexts in which they will be used - hence, the need to use research findings to consubstantiate our propositions. The language context in the present study is EAP and multilingual, and thus I should direct attention to EAP and FL reading. I shall briefly present an evolutionary picture of this EAP/FL field, and ultimately link that to my context.

As I have mentioned elsewhere in the course of this thesis, the participants of the current study are students in tertiary education and obviously they, EFL-EAP readers, are expected to deal with texts produced for academic purposes. Unlike pupils and students at primary, secondary and/or technical schools, the students in Higher Education are reading texts within an environment that is specific to their fields of study, and are expected by the HEI and the academy to behave, in their reading and writing practices, in a more mature and academic manner than children and adolescents in primary and secondary schools.

Given the nature of the texts read by students at this level, one would logically expect that the amount of formal instruction acquired and stored by the student is used accordingly; students are taught during the earlier stages of their education how to distinguish one text type, or genre, from another, e.g. a narrative from an expository text, and they are expected to apply this knowledge while at university. These students are also expected by the tertiary institution to know how to read texts that are structured specifically for their field of study and/or research and thus become and be academically literate. How this process takes place is another point of discussion. Hence, to be academically literate entails the possession of knowledge of the norms and terms relevant to a particular academic discipline, and the ability to operate with success within the given environment. In my experience, however, this has not been the case for most of the students I have dealt with at the university. The ideal picture would be one where the participants in my study had some knowledge of the norms, terms and conventions of their particular academic discipline and were able to function effectively within the university context.

Early studies about the nature and teaching of ESP-EAP produced an array of text-types that could be used in academic classes by teachers and students alike. The seventies provided us with

a long list of examples of approaches to teaching English for Specific Purposes and these, as Alderson (2000) describes, assumed that learners needed knowledge of the language of the specific discipline to be able to read the relevant texts. Such knowledge was seen to include lexis and later syntactic and rhetorical features. This school of thought has changed with time as can be seen by the changing nature and thrust of studies in the ESP-EAP field from the eighties onwards (Dudley-Evans & St John, 1998; Swales, 2001; van Dijk & Kintsch, 1983; Berman, 1984; Cooper, 1984; Alderson, 1984; Celain et al., 1988; Carrell, 1991; Bernhardt & Kamil, 1995; Yamashita, 2002; Shiotsu & Weir, 2007) which have increasingly incorporated the need to look not only at discourse strategies based on extra linguistic, syntax and semantic cues (van Dijk & Kintsch, 1983, in Alderson, 2000), but also at rhetorical and metalinguistic knowledge.

By definition, ESP, English for Specific Purposes, entails the teaching of a specialised language and certain abilities which students have to apply and use in very specific situations, i.e. research, language exams (TOEFL, IELTS, CPE, CAE, FCE¹², etc.), school exams (EAP-ESP), in degree courses. For these situations and purposes they have currently to follow specifically structured courses with adequately designed materials. ESP is essentially (and ideally) tailored to (i) meet the specific language needs of the learners, (ii) make use of the underlying methodology and activities of the discipline it serves, and (iii) be centered on a type of English that is appropriate to these activities in terms of grammar, lexis, register, study skills, discourse and genre. The teachers of ESP may, in specific teaching situations, use a different methodology from that required in the teaching of General English courses, and an ESP course is likely to be designed for adult learners, either at a tertiary level institution or in a professional working situation.¹³ Similarly, EAP, a common version of English for Specific Purposes, entails the training of students/language users, usually in a Higher Education setting, to use language appropriate to their field of study and in a specialized course, i.e. a separate course/ taught separately from, not integrated with the general one; the teaching of a English related to a specific subject or discipline with specific genre. At UEM these specialized courses cover a range of different fields and discourses, such as Technical English, Scientific English, English

¹² TOEFL – Test of English as a Foreign Language; IELTS – International English Language Testing System; CPE – Cambridge Proficiency Exam; CAE – Cambridge Advanced Exam; FCE – First Certificate Exam

¹³ In http://Wikipedia.org/wiki/English_for_Specific_Purposes#Definition_of_ESP.

for medical professionals, English for waiters, and English for Tourism, English for Engineering and newer fields such as English for petroleum engineers.

EAP is a challenging and multi-faceted area within the wider field of English language learning and teaching, ELT. Furthermore, as with most language teaching programmes, EAP tutors/practitioners concentrate on vocabulary, grammar and the four skills (reading, writing, speaking - including pronunciation and listening). However, in such courses these language skills are linked to the study needs of the students/language users, and most often, and based upon my own experience with colleagues at UEM, it could be argued that EAP tutors/practitioners find that they are teaching ‘study skills’ (skills and abilities to cope with learning and how to approach disciplines) and that their primary function turns out to be that of tackling differences in educational ‘culture’, be it directly or indirectly.

The early and late seventies produced ESP textbooks that followed a typical rigid structure, i.e. ‘each section of the book followed the same pattern: Test Paper, Lexical Simplification, Structural Simplifications, followed by exercises like Vocabulary exercises, Structure exercises, Questions on the Text, and Summary of the Contents of the text’ (Alderson, 2000:36). The focus of such textbooks¹⁴ was on the teaching of English language that was specific to the field of study, thus ‘guaranteeing’ that the EFL-ESP-EAP student readers were provided with the necessary formal linguistic schemata when using academic texts and similar types of reading materials. Several studies (Dudley-Evans & St John, 1998; Swales, 2001; van Dijck & Kintsch, 1983; Berman, 1984; Cooper, 1984; Alderson, 1984; Celain et al., 1988; Carrell, 1991; Bernhardt & Kamil, 1995; Yamashita, 2002; Shiotsu & Weir, 2007) on the nature, structure, content, language, genre, etc. of these language textbooks, were carried out to correct the somewhat rigid, and, in terms of reading processes and practices, linguistically and academically unsound, content and structure of these textbooks.

¹⁴ The ‘English in Focus’ series, edited by J.P. B. Allen and H. G. Widdowson included titles such as *English in Biological Sciences*, *Physical Science*, *Mechanical Engineering*, *Workshop Practice*, *Basic Medical Science*, *Education*, *Agriculture*, *Social Studies*, and *Electrical Engineering and Electronics*. There was also the ‘English Study’ series by Mackin, ‘The Nucleus’ series by several authors, i.e. Soto, M S (1985). *PHYSICS – Developing Reading Skills in English*; Swales’ 1979 *Writing Scientific English*, etc. These textbooks are analysed in the present study as the core materials used in the provision of ESP-EAP at the UEM. The results are presented and discussed in Chapter 4 and 5.

I shall not mention the specifics of such studies at this point but instead look at the product which emerged from most of these studies, and which helped readers to process scientific and academic texts and attain comprehension of these texts more adequately through other kinds of textbooks and teaching methodologies that took into account such results. The student participants in the present study had English as a curricular subject, which was taught as, or designed in terms of, English for Academic Purposes, and was sometimes confused and/or designated as English for Specific Purposes, used interchangeably with EAP. The rationale for this kind of course was and continues to be that most of the participants, like all the other students, would at some time have to use English for communication, research and for data/information searches for their academic studies.

Given that most of the books and articles accessed and utilized by both students and lecturers at a university such as UEM are published in English, the international language of research and the academy (Flowerdew & Peacock, 2001), English is seen as, and has become, a very important subject for the students. Because of this, knowledge of and proficiency in the language in an EAP context is invaluable and this is an asset most of our students lack, and should prompt the question: How can we expect our students to read and do research in a foreign language, English, if their knowledge and proficiency in the use of the language is a problem? It is generally assumed by most language teachers and instructors that EAP is taught to people who are using English as a foreign language, once the need to use English for academic purposes and to access literature in English, as well as for communication and for access to technology and knowledge published in English, has been identified by those having to use it in an academic context. However, not all instructors or teachers in both the local and international context are aware of, or experienced in, the appropriate methodologies to meet such needs. Research in EAP has gone through several stages and, in the process, has been characterized as a field which has evolved from a detached lexico-syntactic analysis field, characterised by a concentration on lexis and later on syntactic features (Alderson, 2000), to a situation where the field is characterized by various and manifold moves focusing on rhetorical features (Swales, 2001). This variability, however, according to Swales (2001), has remained loyal to its founding fathers in its continuing to hold to the belief in the need to provide linguistic evidence for the claims being made. Thus there has been a change in focus in ESP-EAP from seeing language as being universal, transparent, and neutral (Swales, 2001), to an approach which started to look at language and its

uses in more depth, i.e. studies on the *pragmatics* of language and language as a means of communication in a particular context. Clear examples of this approach are those research studies which focus on the importance in a specific context of a syntactic structure such as the use of the Passive Voice (Berman, 1984) to enable readers to process and write about scientific and/or academic texts, i.e. texts in which the Passive Voice is frequently used. These studies yielded ambiguous results, as Alderson (2000) puts it, and were also risking “oversimplification” in focussing on the importance of a particular syntactic structure in terms of the reader’s ability to syntactically process such a structure as being important to FL-SL reading. Berman’s 1984 study showed that readers had problems identifying syntactic components in complex sentences or non-common syntax, for example, adverbial phrases before main clauses, and she suggested in the end that successful readers are able to get at the core of more complicated sentences, and that the ability to process complex syntax may be more important for the understanding of detailed information in sentences than for the gist of the text (Berman, 1984).

According to Dudley-Evans and St John (1988), and corroborated by Alderson (2000), studies such as Berman’s and Cooper’s (1984) on Register analysis, or Active and Passive Voice forms, dominated research in the field of EAP in the eighties. Later, however, criticism regarding the lack of explanation of certain issues, such as no apparent reason given for a particular syntactic structure being used more frequently than another, and lack of evidence on how sentences combine to form paragraphs and thereafter texts, paved the way for more in depth research where the focus was on the *pragmatics* of language. As described by Alderson (2000), these studies in the 1980-90s looked at understanding the rhetorical aspects of the language, the discourse and its operation as used in academic language, EAP. Thus, the understanding of discourse and discourse analysis, genre and so on, aspects related to language use and its linguistic form (through which a particular rhetorical function was carried out), were the focus of many research studies from the nineties on whose aim was to find answers to issues related to the development and understanding of ESP-EAP teaching and learning as an academic field. I wish to emphasise that no study in this field, irrespective of its particular aims, should be left unmentioned as all of these studies have contributed to how EAP is currently understood and the field of research is a pragmatic and dynamic one. The contributions that such studies and Transformations have brought to FL reading as a whole from the nineties onwards have helped to craft our understanding of today’s EAP (for more details on the developments of FL-ESP-EAP field of

research see Dudley-Evans & St John ,1988; Alderson, 2000; Flowerdew & Peacock, 2001; Swales, 2001; Shiotsu, Toshihiko & Weir, 2007).

2.5. Concluding remarks

This chapter has highlighted several key issues regarding the development of reading and reading comprehension strategies for use in L1, L2, and EAP contexts, and linked these strategies to FL contexts. I have presented a brief account of the various reading models which have evolved over the last 40 years, including those differing, similar and overlapping features which they found to characterise the reading process in general in L1 and L2. I attempt to identify which of these features can be linked to the FL multilingual context at UEM, in the hope of contributing in a meaningful way to the broader and specific expectations of the current study, and comprehending how these reading models may help readers at UEM and in similar tertiary education contexts with the effective use of reading skills and strategies to construe meaning. More specifically, the chapter has looked at whether the models adequately describe the reading processes of both fluent and beginning readers, and whether any particular model describes both the word-recognition and the comprehension processes. The chapter looked at how the models complement and encompass the development in reading research from the seventies, through the nineties, to the present, and whether certain gaps in the descriptions of the reading process, and in the different reading materials and texts appropriate for different contexts, have been addressed adequately to suit the FL context *vis a vis* the L1 or L2. This was an attempt to answer some of the questions posited by Samuels and Kamil (1994). While the descriptions have shown that the L1 reading process and L1 students' reading abilities have come to be seen as operating in the same manner in L2 (early research), new variables have shown this not to be the case (FL reading) because these variables in terms of vocabulary, language competence, syntax, semantics, orthographic features, language knowledge, and conscious usage of reading skills and strategies to construe meaning may be perceived and used differently in different specific contexts such as the particular academic language context of the current study .

Thus there remain questions to be answered in the process of clarifying understandings of the foreign language context and EAP. In Chapter 1 I suggested that a case can be made for the need

to develop a reading model and/or explain some issues that continue to linger without clarification in recent and current reading models, Bernhardt's 2005 compensatory model of second language reading being one example. I would argue that the variables in the third dimension of reading strategies (Bernhardt, 2005; Stevenson et al., 2003) cannot be explained by simply resorting to the bottom-up, top-down, interactive or componential models alone, but that a combination of these, and an adequate analysis of what happens at that "50% unexplained variance" area, where issues of comprehension strategies, engagement, content and domain knowledge, motivation, interest, etc. are still to be clearly explained (Bernhardt, 2005). Though Bernhardt's (2005) model is a componential one, it has evolved from the initial reading strategy propositions and seems to provide sufficient grounds to begin a debate that might explain in more detail and with greater clarity what happens in the foreign language reading field. Bernhardt's (2005) review suggested that the issues are not simply language knowledge issues, or the development of transference of learned language and skills from L1 to L2 or FL, but include the volume or quantity of such transference, the conditions that allow such transference, and the context in which this takes place (Bernhardt, 2005). She also suggested that the primary issue is not how much language knowledge a reader possesses, or the identification of the language threshold (if quantifiable) of the reader, but the necessity to clarify the relationship of language knowledge to literacy knowledge and to individual/idiosyncratic knowledge.

In Chapter 1 I presented the argument that, with regards to L2 [EFL], language knowledge (grammatical form, syntactic parsing, cognates, the linguistic relationship and/or relation between L1, and L2 in other aspects, might have been dealt with by many scholars in a much more in-depth manner. I also propose that text comprehension is not necessarily a language problem, but instead involves the reader assessing that comprehension with the use of the appropriate strategies and or skills.

In the present chapter I have discussed the various understandings and models of the reading process, and the development of this thinking over the past four decades, and how these have or have not been linked to reading in a foreign language. I also looked at reading as a process and at the different definitions of the components of this reading process. I briefly discussed the different reading models and how their respective theories and approaches have developed and

paved the way for the current understanding of reading in a foreign language, together with the reading strategies and skills specific to such readers.

The chapter aimed at providing the grounds for the adequate identification of these FL reading skills and strategies and their effective use by FL readers in the construction of meaning in a postcolonial context where the colonizing language was not English (subsequent chapters of the study will deal with this issue in detail). Several variables were considered in explaining how the reading process operates in a multilingual foreign language context, and questions touched on, such as, Can strategy compensate for weakness in syntax, and can these elements be overwhelmed by vocabulary knowledge? Or, to what extent can L1 knowledge compensate for lack of L2 and FL knowledge? I would hope that answers to the main research questions (in Chapters 1 and 3) may shed light on such unresolved issues in this field and help with the understanding the different nuances perceived between L1 reading and L2 and FL reading. The research questions (posited in Chapter 1) are dealt with in detail in the chapters that follow.

The identification of specific reading skills and/or strategies using Needs Analysis to survey textbooks used by lecturers and by the participants in the present study serves as the primary basis and research methodology for the study and provides data on the variables related to those reading comprehension and reading comprehension strategies that have been placed in the third dimension area of Bernhardt's 2005 model of second language reading, the primary interest of my study. This model has clearly shown that issues around language knowledge (grammatical form, syntactic parsing, cognates, the linguistic relationship and/or relation between L1 and L2) and other aspects should be thoroughly unpacked. Text comprehension (not necessarily a language problem, but possibly, how a reader assesses that comprehension), the use of appropriate strategies and/or skills, the variables related to reading comprehension and reading comprehension strategies are what interest me. For this reason I have set out to explore the 'unknown' and 'explained 50% variance' posited by Bernhardt (2005). It is hoped that answers to these questions will emerge from the process of studying comprehension strategies, engagement, content and domain knowledge, interest, motivation, etc. on the part of readers, which variables await thorough investigation and comprehension (Bernhardt, 2005) by scholars in needing to deepen their Foreign language reading research.

In attempting to shed light on the as yet unexplained variance gap discussed in Chapter 1 it is hoped that my study will provide the reading research field with answers to some of these questions with specific reference to a foreign language multilingual context such as mine and widen the base of such studies.

The research methodology and design of the study is described and explained in Chapter 3.

CHAPTER 3 STUDY OVERVIEW

3.1. Study Overview

The research in the field of reading, and attempts at understand readers' usage of reading skills and strategies being based on L1 English language speakers (Bernhardt, 1999, 2001, 2005, 2011) has been mentioned, together with the argument for further developments in research within an EAP-EFL multilingual context such as the one of this study. The stated aim of the study is to identify the reading challenges specific to the multilingual context of UEM in order to identify the particular reading strategies/skills readers at UEM and other tertiary contexts apply to resolve reading problems. The three research questions regarding reading skills/strategies formulated and set out in Chapter 1 are:

- (a) What strategies and/or skills do learners and users of English in an EAP context resort to in order to construct meaning from text?
- (b) To what extent are these reading skills/strategies used effectively, i.e. do these learners/users attain the envisaged goal – comprehension?
- (c) To what extent are these learners/users consciously aware of their own use of such reading skills/strategies?

To answer these questions I made use of a mixed method approach.

3.1.1 Methodology and research design

(i) General overview

This study employs a three-phase design approach in answering the research questions. The three-phase approach allows for a two-pronged approach to the study of the participants' reading process. I first conducted a qualitative analysis of the teaching materials/manuals used in the provision of English language in the different faculties (Needs Analysis), followed by both a quantitative and qualitative phase (administration of IELTS reading section test, administration of questionnaires). Within the ambit of the third phase, a qualitative and quantitative (Think Aloud Methodology) exercise served as a data collection tool to qualitatively understand the

participants' reading process and usage of reading skills and strategies, as well as to quantify the skills/strategies applied by the participants in the process. The steps and the rationale behind this mixed-methods approach are presented in detail in the sections below.

(ii) Rationale for the methodology

A set of three different methods was used in the study. These included the administration of the reading section of the IELTS test to test participants/subjects reading comprehension of a text in a given set of time and also to place them within a reading level and or ability classification band, i.e. elementary, intermediate, pre-intermediate, etc. The tests were used to inform the study about the level of comprehension of texts (EAP) in the foreign language, English. This was then matched with appropriate comprehension level indicators (to be selected), degree of test difficulty, and so on, to later match with those features of good/bad readers in the foreign language associated with the use of reading skills and strategies that the present study is attempting to identify. A cognition/metacognition questionnaire was distributed to the same participants to explore their awareness, or levels of awareness, of the types of skills/strategies they were using in different situations. The responses from this questionnaire were intended to assist in identifying what skills/strategies participants claimed to use when constructing meaning from text, and in the end to inform the study in terms of what participants claimed *vs* what they were being formally taught through the manuals, and what was being used in 'near to real situations', i.e. situations relating to the field of study or potential work place. A Needs Analysis of the reading sections of the various (main) manuals used in the administration of EAP-EFL was carried out in order to find out about what sort of reading skills/strategies are covered by the manuals used to formally teach these to the learners/participants of the present study. It was intended that the identified set of skills/strategies would inform the study results, essentially when the reading skills/strategies were identified through the application of the Think Aloud methodology. This would in turn show me whether there was any relationship between the level of comprehension, the type of reading skills/strategies that are formally taught, the ones the participants claimed to be using, and those used by the participants when they were attempting to construct meaning from text. The third method, the Think Aloud Methodology was intended to be used to clearly pinpoint the skills and strategies used by the student participants in a 'near to

real context', which findings would then inform the study results in terms of which ones were in fact being used in relation to those formally taught. Using these findings, the intention was to eventually build towards suggesting an innovative design for a teaching-learning approach for the reading level established by means of these methods, and help improve the materials and pedagogy involved in the provision of EAP-EFL in tertiary education in general, and at the UEM in particular.

The three methods used are as follows:

3.1.1.1. Reading Comprehension test (IELTS reading section) to attest reading comprehension and attempt to place participants on a rank/level of English, i.e. 0-9 or intermediate, pre-intermediate, etc.

3.1.1.2. Questionnaires were administered to assess the kind and degree of learners' awareness of their use of reading strategies/skills (cognitive) or any other devices/tools applied to solve reading problems encountered during the reading process (metacognition) (see works by Naiman et al., 1978; O'Malley et al., 1985; Wenden, 1985; Ramirez, 1986; Oxford et al., 1987, and, more recently, Johnson, 1994; Presser et al., 2004; Coleman & Briggs, 2005; Saw & Ng, 2001; Sushil & Verma, 2010; Cohen et al., 2011) .

3.1.1.3. The method concerning self-revelation of data, i.e. "thinking-aloud", stream-of-consciousness disclosure of thought process while information is being attended to, or simple verbal protocols that are obtained while participants and/or respondents are completing a task such as reading or solving a maths problem, were used. Essentially the method was used to test participants' level of text reading/comprehension and task completion and to identify the kinds of cognitive and metacognitive reading strategies and "support strategies" they were consciously using (Carrell, 1989; Sheorey & Mokhtari, 2001; Grabe, 1991; Urghart & Weir, 1998). These events were recorded (learners exteriorizing/vocalizing their use of strategies and skills), and then transcribed and analysed using existing taxonomies (e.g. Mumby, 1980; Weir, 1984; Sheorey & Mokhtary, 2001; and so forth, as set out in Chapter 2). The insights regarding the above methodology were drawn from research such as that by Radford (1974), Cohen and Hosenfeld (1981), Cohen (1987), Pressley and Afflerbach (1995), Kibby (1997), Kucan, and

Beck (1997), Afferbach and Johnston (1984), Bereiter and Bird (1985), Davey (1983), Ericsson (1988), Garner (1987), Block and Israel (2004), Israel (2002), Whitney and Budd (1996), Dominowski (1998), and many others. Section 7.1 in Chapter 7 provides a much more detailed account of the Think Aloud Methodology, including a background profile of the method and recent trends.

An in-depth literature review was carried out to provide a solid theoretical foundation for the study. The review included prominent scholars and researchers in the field of reading and reading in a foreign language, with an emphasis on foreign language reading in an EAP-ESP context. The research activity is subdivided into steps/phases and will be carried sequentially, with some overlapping in terms of execution.

3.1.2 Brief Account of Procedures

The procedures briefly described below are presented in detail in each part of the study, in each respective chapter and or section.

3.1.2.1. A Needs Analysis of teaching-learning materials used in EAP-ESP classes during semester one and two (year one and two or further years/levels of study) of the undergraduate degree course as well as those used in EAP-ESP courses at the University in different faculties, was carried out in order to gain insight into the types of texts read by students, and the types of reading strategies required by these texts. A selection of texts was made for use by the participants in the current study for the think aloud verbal protocols. In addition, to complement the Needs Analysis on students' textbooks, a questionnaire was administered to teaching staff concerning the First Certificate Textbook.

3.1.2.2. Selection of classes 02 in the –Faculty of Arts and Social Sciences (FLCS): Linguistics/Literature + Translation/Interpretation; (i) administration of a pilot test to test reading comprehension levels; (ii) administration of comprehension tests [IELTS reading section] to establish how the subjects attain comprehension/construe meaning; (iii) administration of a cognitive and metacognitive questionnaire to subjects to assess the nature and degree of learners'

awareness of their use of reading strategies/skills or any other devices/tools which they apply to solve reading problems encountered during the reading process.

3.1.2.3. Selection of participants from those who had sat the test to carry out ‘thinking aloud’ to find out and identify participants’ usage of reading strategies and or skills. The reading strategies are classified as cognitive, metacognitive strategies and “support strategies”;

3.1.2.4 Analyse data, findings and discuss results that I hoped would produce enough evidence to suggest the designing of a new template for EAP-ESP courses at the University and suggest further studies in the use of such template for materials design.

Each one of these research methods and procedures are discussed in detail within the respective sections as each of the different stages of the study is presented (see chapters 4, 5, 6 and 7). A combination of these methods were applied during the different stages in order to answer a specific or a set of specific questions.

3.2.1 The research site and Solicitation of Respondents

3.2.1.1 The Research Site

The multilingual context of the study has been described in detail in Chapters 1 and 2, together with the medium of instruction at the majority of the schools, and English largely spoken in urban and peri-urban areas. Historically this use of English is due to developments in the trade and industry sectors coupled with education and tourism, as well as the fact that Mozambique’s neighbours are former colonies of the United Kingdom. Mozambique as a state is a relatively young country: it achieved independence in 1975 from the Portuguese Colonialists who had ruled for over 500 years. The Republic of Mozambique is situated on the east coast of the Indian Ocean with more than 2000 km of coast and with a tropical and sub-tropical climate. The country covers about 799.390 km² with borders to the south (South Africa and Swaziland), the west (Zimbabwe, Malawi and Zambia) and to the north (Tanzania), all of whose populations speak English as either the official language or *lingua franca*, although English is the L1 of relatively few of the citizens of those countries. Mozambique and Angola are the two countries in Southern Africa whose official language is Portuguese. The largely rural population of

20,530.795 (INE, 2008) consists of mainly of subsistence farmers. The capital Maputo has a population of about 2 million and 13 institutions of Higher Education out of the 45 in existence in the country.

Figure 3: Map of the Republic of Mozambique



The Eduardo Mondlane University – UEM -, the setting for this study, was founded in 1962 and is the largest and oldest public university in the country. The UEM has a student population of more than 35000 and has eleven faculties and four superior schools that teach life and social sciences and humanities. There are more than 45 Higher Education Institutions, 17 public and the remainder private, located all over the country and the estimated total number of students, not precise to date, is believed to be between 15 000 and 18000.

From its population of over 20 million (INE, 2008) (see Table 7 for more population data), a small percentage (8%) of the country’s 160 thousand civil servants have university degrees. The

figure in the private sector is unclear. According to data from the World Health Organization, Mozambique has a literacy rate of 44% (WHO Afro, 2007) for a population aged 15 and over. This translates into a male/female literacy rate of 57% and 33%, respectively. These data are to some extent challenged by data from local and other sources¹⁵ (Table 6 below) which claim that the literacy rate for the male population is 64% and for the female population 33%,.

Table 7: Languages spoken by Mozambican population groups

People, Languages, and literacy rates	Bantu peoples: 97.7%.	Northern peoples: 54.3%. EMakhuwa 6.8 m.; Lomwe 2m; Chwabo 730,000; CiMakonde 600,000; Yao 450,000; KiSwahili (and related KiMwani, KiMakwe, Koti and Nathembo) 150,000.	Central peoples: 19.2%. CiSena-Podzo 1.1m; CiShona (Ndau, CiTewe, CiManyika, CiTavara) 1,030,000; CiNyungwe 700,000; CiMarenje 500,000; Maravi (CiNyanja, CiChewa) 450,000.	Southern peoples: 24.2%. Tsonga-Changana 1.9m; CiTswa 1.1m; Chopi-Tonga 800,000; CiRonga 600,000; CiSwazi-Zulu 140,000.
	Other Peoples: 2.3%.	Portuguese 60,000	Euro-African 300,000	South Asian 25,000
	Total languages: 39	Official language Portuguese – spoken as L1 by 6.8%; understood by 30%.		
		Literacy 40% (official); 20% (functional).		

(source: adapted from <http://www.operationworld.org/country/moza>).

¹⁵ See data from INE, The National Institute of Statistics of Mozambique, 2008.

Table 8: Population projection 2000-2025

	Population	Annual Growth	Density
2000	19,680,456	+2.51%	25 per sq. km.
2010	23,116,593	+1.50%	29 per sq. km.
2025	30,611,842	+1.96%	38 per sq. km.

(source: adapted from <http://www.operationworld.org/country/moza>).

The research population involved in the present study includes students following undergraduate degree courses in different faculties at the UEM, namely the Faculty of Arts and Social Sciences, the Faculty of Sciences and the Faculty of Agronomy and Forestry Engineering, where the Biology degree course is hosted. These students are in their 1st to 3rd year of university studies and thus represent a high potential for exploration in terms of this research.

The English language courses taught at the UEM are intended to enhance the students' reading skills and strategies and to improve and upgrade their general knowledge beyond their immediate field of study and general knowledge, i.e. to upgrade their linguistic competence in order for them to be able to read, extract data and perform tasks, and write essays with information obtained from books and articles written in English. Despite the fact that Portuguese is the lingua franca of the country, very little academic literature is available in this language, which makes English an important language to both students and lecturers. In spite of this situation, English is only taught as a subject in Mozambique from the late primary level in grade 5, and by the time students enter the university, their linguistic competency level is poor-anywhere around false beginners, to low intermediate, to very selective cases of advanced practitioners¹⁶.

Portuguese, however, is also an important language in Mozambique since it is the official medium of instruction from the first level of education and throughout the country. There is no

¹⁶ See chapters 4, 5 and 6 below for specific and detailed data on the research population.

legislation that officially allows other languages to be used as mediums of instruction (except where bilingualism is being trialled), but there are a few cases where, with the relevant authorisation, English is used as a medium of instruction in a school¹⁷. It is only recently that the government, through the Ministry of Education and Culture,¹⁸ has introduced a pilot programme in bilingual education in pilot primary schools in south, central and northern regions, incorporating mother tongue, L1s which include Emakhua, Cisena, Cinyungwe, and Cichangana, largely spoken in the region together with Portuguese (see Table 7). Despite this programme, Portuguese still carries considerable weight in the education of all Mozambicans, the reason for it being the medium of instruction in all public schools and in the majority of private educational institutions. As a result, most students enter university without being knowledgeable or fluent in other languages, such as English. Thus, in this context, and given the status and importance of English, I would argue that it is the task of the university to see that these students are equipped with the appropriate tools to survive and succeed at tertiary level, given that most of the literature at this level is published in English which is the global language of science, technology and trade, as well as the language of international diplomacy and politics.

More specifically, until recently a compulsory English language course has been offered in almost every faculty and higher school of the Eduardo Mondlane University¹⁹ for a minimum period of one to two semesters. There are faculties where English courses run beyond 2 semesters. With the exception of the Translation and Interpretation and Teacher Training courses, in all the other undergraduate courses experience shows that English is seen as just another subject that needs to be ‘learned, conquered and forgotten’, simply in order ‘get a pass’. I should say at this point that selected faculties make every effort to provide English courses in a responsible and professional manner, and the lengths of these courses vary from two (Biology and Physics degree courses) to eight semesters (Translation and Interpretation degree course). In the course of these programmes students are required to write essays and to present *viva voce* defences of practical tasks and components (field studies, case studies, essays, etc.). Thus their

¹⁷ In the private sector of education.

¹⁸ INDE, MEC- a body in the Ministry of Education and Culture responsible for the development of education in Mozambique.

¹⁹ Currently some faculties of the Eduardo Mondlane University have dropped English as a subject given the time constraints arising from the curricula reform and the need to adapt and adjust all curricula to the Bolonha and SADC requirements. The implications of such a move are as yet unclear and will not be discussed in the present study. However a list of faculties that until recently taught English and are no longer doing so will be provided in an annexure to this study.

transition, or graduation, to a higher level requires demonstration of their capability to read and extract meaning from texts written in English. It is these accreditation requirements that render the participants in this study suitable as potential subjects for the purpose of the study. The potential candidates needed to be officially registered in a faculty and in a degree course. He or she needed to show evidence of being enrolled in the English as a subject course.

3.2.2. Selection and recruitment of respondents

The students appropriate for the research sample were selected according to the following process:

1. I visited the selected classes (described above) and discussed with the students the aspects of the present study, informing them in detail about the purpose and the main objectives of the study.
2. Students were asked to take part in the study on a voluntary basis and, upon agreeing to do so, signed a letter of consent.
3. I explained that they were free to quit/leave the program if/whenever they felt the need to do so, without any prejudice to their academic careers.
4. Compensation procedures were also discussed in terms of compensating them for the time they would otherwise be devoting to their studies, not necessarily in the form of financial compensation, but with other types of incentives such as books or credits/marks.
5. Prior to any data collection, students/respondents were to be ‘trained’ or familiarised in the main data collection procedures, particularly in the Think Aloud process.
6. For the questionnaires for the teachers (concerning First Certificate), colleagues were contacted and the aim of the study and their collaboration/contribution made explicit. All colleagues were invited to fill in the questionnaire.

3.3 Research questions

Groebel points us to the fact that 'the complexity of reading in a non-native language makes such a task almost insurmountable' (Groebel, 1985, cited in Osman, 1986:5). Thus, with the complex multilingual educational background of Mozambique as its setting, this study attempts to explore the complexity of the FL reading process through qualitatively and quantitatively analysing the forms, ways, and cognitive mechanisms utilized by adult EFL readers attempting to construct meaning in an EAP-ESP context. For the purpose of the present study it is important to take into consideration, reading performance in the native language²⁰, as well as the contribution of FL knowledge to any reading performance, prior to making definitive statements about any aspects of the second language reading process. The work of Bernhardt and Kamil (1995) would support the claim that this enhances the reliability and trustworthiness of any research findings.

Given the research questions set out in section 1.4.3, and the nature and purpose of the study demand a subset of questions which are dealt with in sequence in each chapter. The first set of sub questions is discussed in Chapter 4: (i) what textbooks are used in the different faculties to provide ESP-EAP within this EFL environment?, (ii) how appropriate or dated are these textbooks in terms of adequately developing students' competency in EAP?, and (iii) does the content of the textbooks cater for the teaching of adequate reading skills and strategies to enable EFL learners/readers to cope with authentic texts written in English and to construct meaning adequately in terms of their learning process and purpose?

In chapter 5, issues concerning, i) the use in the research process of a reading comprehension test (to support the results from the questionnaire administered to students and language teachers) are discussed in order to gain insights into the **How** and the **What**- trait, with the ultimate purpose of improving the long standing, and yet to be reviewed and/or reformulated, EAP courses at UEM (one of the pivotal reasons for carrying out a Needs Analysis in chapter 4). Also discussed in this study, in chapter 5, is the reliability and effectiveness of the reading comprehension test (pilot and IELTS) in terms of assessing the level of reading comprehension of the participants, and, ii) from the test, the process of inferring whether adequate reading skills and strategies were used by the student participants that might have played a role in EFL learners/readers constructing meaning and enabling them to cope with authentic academic texts (in English) and to construct

²⁰ Understand native language here as the official formal medium of instruction, i.e. Portuguese

meaning adequately for their learning process, and iii) the possible use of the results of both the comprehension test and the questionnaire to design a template for more appropriate and effective academic language courses. The purpose of the discussion of these issues in Chapter 5 is to establish a basis for further engagement with them in subsequent chapters. Chapters 6 and 7 present discussions of issues related to the specific skills and strategies FL learners and users of English in an EAP context resort to in order to construct meaning from texts, and the degree of effectiveness of the use (claims by readers, and real usage) of these reading comprehension skills and strategies is assessed as well as the degree of awareness these participants have of their own use of such reading comprehension skills and strategies (inferred from the cognitive and metacognitive questionnaire). Further relationship of IELTS test results with the self-reported use of reading skills and strategies is attempted, and a comparison with L1 and L2 results is done in chapter 7. Chapter 8 provides the conclusions of the study where the issues discussed in each chapter and related conclusions are bound together to formulate final remarks, conclusions and recommendations.

The present chapter 3 has described the setting of the study and the methodology used together with the criteria and mechanisms for the selection of respondents and participants in the study. The sub set of questions have been presented and the content and purpose of each chapter, together with the links between the chapters.

CHAPTER 4 STUDY PHASE I: NEEDS ANALYSIS AT UEM

4.1 Introduction²¹

This chapter focuses on English language textbooks, with the purpose of conducting a Needs Analysis as a first step in EAP-ESP course innovation at the UEM. As mentioned in the previous chapter, the findings of the Needs Analysis are complemented by a reading comprehension test distributed to the student participants from the three degree programmes, as well as responses from the questionnaire administered to language practitioners in the English section of UEM in order to gain insight into their views of how best to transform and improve the current EAP programmes in terms of materials and pedagogy.

Issues pertaining to the aims of the study within the particular UEM multilingual context encompass the students' and lecturers' ability to communicate fluently in multiple languages and across contexts of use, and presuppose the development of policies and the creation of suitable educational structures on the part of the UEM which fit the local context rather than being based on generic and/or outdated curricula.

A clear and thorough understanding of the complexity of this linguistic multiplicity and its implications for the development of the language skills required for EAP is essential in any attempt to develop appropriate curricula. In this context the Needs Analysis sought to develop insights into the current status of the teaching of EFL, ESP and EAP at UEM. The research questions informing this analysis as set out in the previous chapter (3.3) are: (i) what textbooks are used in the different faculties to provide ESP-EAP within this EFL environment? and (ii) how appropriate or dated are these textbooks, and (iii) does the content of the textbooks cater for the teaching of adequate reading skills and strategies to enable EFL learners/readers to cope with authentic texts written in English and to construct meaning adequately for their learning process? The students represented in this study are first year students: studying for an Undergraduate

²¹ Most of this chapter was published as part of Cabinda, M. (2013). The need for a Needs Analysis at UEM: Aspects of and attitudes towards change. *Linguistics and Education*. In <http://dx.doi.org/10.1016/j.linged.2013.10.001>

Degree in different fields: Physics, Biology, and Translation and Interpretation (English-Portuguese) respectively.

The a Needs Analysis is a methodology used to gain insights into and evaluate the types of materials being used in EAP programmes in terms of their relevance to the teaching context, in addition to the identification and classification of the skills and strategies students are purportedly taught using the textbooks as course material.

4.2 Some remarks on the teaching of EFL – ESP/EAP at UEM

As was described in Chapter 1, one of the aims of the present study is to try to gain insights into the teaching of English as a Foreign Language at UEM in the various courses which go under the ESP-EAP banner. The focus is on EFL learners/readers²² or users of research academic articles (RAs), or authentic scientific texts in the form of books, journals, and websites, and the skills and/or strategies they use, consciously or unconsciously to help them comprehend and understand text in an EAP context in much the same way as they do in their mother tongue and/or the lingua franca²³. The study also aims to establish whether these learners/readers apply similar reading strategies whilst reading texts in the foreign language, i.e. English. Therefore, I saw the identification of the reading strategies/skills EFL-EAP learners/readers apply when engaging with EAP texts in order to construct meaning as providing a base from which to develop a more appropriate EAP teaching-learning approach, and in the process help me to gain insights into the *How*s in curriculum development and the *What* to do to improve the long standing and yet to be reviewed and reformulated courses.

As was mentioned in Chapter 1, the EFL-EAP/ESP course in its present form at the UEM has been running for the past two decades, from the time I joined the institution more than twenty years ago, and very little, if anything, has been done to change or innovate it. The degree courses in several fields require English as a subject and the main aim of this English language course is to enhance the capability of the students, among other sub-skills, to read authentic academic texts, research articles, journals, etc. I have come to the conclusion, through empirical means,

²² See footnote 1.

²³ See footnote 2.

and based upon my experience of more than 20 years as a language teacher and as a lecturer at the UEM, that most of the students do not have the ability to access information adequately through effective use of reading strategies/skills in the FL. Given that the ability to read fluently has an effect on an individual's quest for knowledge, particularly academic knowledge, his/her level of awareness of the use and importance of reading strategies and skills is crucial (Pal, 1989). Thus the need to understand the reading process itself, and that of the foreign language learners within their 'real' environment, including their particular problems, is crucial in order to formulate appropriate reading programmes and new pedagogical approaches based upon the specific reading strategies they use, and on their specific needs in their multilingual context and in terms of the discourses of their fields of study, and in so doing, ultimately helping them become better EAP readers.

Chapter 1 (1.2) gave a detailed background of the lack of review and transformation of the existing EAP courses at UEM and the use of outdated textbooks, the Nucleus series (published in the 1980s), and their severe limitations in terms of the development of students' reading fluency in EAP. It also described the criticism of these textbooks by scholars and language practitioners from the 1990s on in terms of the narrow, generic decontextualised approach informing the production of such textbooks: (i) their restrictedness to word and sentence level analysis (West, 1998), (ii) their descriptive yet un-explanatory nature (Robinson, 1991), and (iii) most materials produced under the banner of register analysis followed a similar pattern, in which a long non-authentic specialist reading passage began most lessons/units followed by exercises (Dudley-Evans & St. John, 1998).

Thus I considered a level of formal Needs Analysis based on the identification and evaluation of such features to be crucial to counter most of the drawbacks of informal needs analyses, so that I, and all those involved in the learning and teaching business (researchers, lecturers, institutions, learners), could be comprehensively informed and equipped to make informed and sound decisions in terms of the kinds of materials and pedagogy needed to meet the defined goals of an ESP-EAP course offered through a foreign language in a complex multilingual context such as that of UEM.

In the specific context of UEM, I would argue strongly for a systematic and comprehensive formal Needs Analysis based on recent research. In the mid 2000's, the English section of the UEM, without any formal Needs Analysis or institutional sanction, decided to introduce new teaching materials to their courses, the Headway and First Certificate textbooks series, to strengthen or develop what had been termed by the lecturers as a "weak level of English language competencies and skills" shown by students graduating from the pre-university level/high school. What has been extensively researched and debated in the field of EFL-ESP/EAP is that any such major decision should not be taken without following certain necessary steps on which to base an informed decision, such as carrying out a *Needs Analysis*, described in an education context as a set of activities that are involved in collecting information that will serve as the basis for developing a curriculum, or improving an existing one, as well as finding out about the content materials used in a certain course, their validity and relevance, that can meet the needs of a particular group of students [or an institution] (Dudley-Evans and St. John, 1998; Iwai et al., 1999; Songhori, 2008). Suffice to say that the above selected textbooks used in EAP courses at UEM are generic, are general and commercial English driven, and are used almost all over the world in private institutions to teach English as a foreign language in its generality, in a decontextualised way, and not necessarily to cater specifically for ESP-EAP purposes in a multilingual context.

These and other reasons mentioned elsewhere in the present study (see chapters 1, 2 and 3) motivated me to conduct a formal Needs Analysis at the UEM, with the dual purpose of gaining valuable and appropriate insights into the intricate nature of syllabus design and improvement, particularly in a multilingual context, and to find answers to the ways in which the UEM *long standing and yet to be reformulated ESP-EAP* course could be updated and (re)designed to meet the particular needs of students having to develop their competency in EAP. I hoped that the results from this Needs Analysis in terms of the content of the textbooks used in ESP-EAP courses would provide findings in terms of their validity, relevance and usefulness for a specific multilingual context in the 21st century, and for innovative course design. From these findings, I will attempted to produce a template for an EAP course design based not only on the Needs Analysis, but also on the reading skills and strategies identified in the current study, through the use of other research methods, as trialled and advocated by Dudley-Evans and St. John (1998: 124), and described in Songhori's 2008 review. One of the main assumptions underlying any

Needs Analysis is an acknowledgement that what works well in one situation may not work in another (Songhori, 2008), as is the case of UEM where conveners of EAP-ESP course are simply prescribing and using the Headway and First Certificate Textbooks without conducting any prior formal Needs Analysis or taking into account that any ESP programme should be sensitive to the particular cultural and linguistic environment in which the course is offered. Almost two decades ago Jordan (1997) argued that any Needs Analysis with a sensitivity to a particular cultural environment should provide us with a tool for designing an environmentally sensitive course, taking into account cultural, linguistic, infrastructural, and socio-economic factors. Thus factors such as (i) classroom culture, (ii) EAP staff, (iii) pilot target situation analysis, (iv) status of service operations, and (v) study of change agents, need be borne in mind when attempting to design a more sensitive curriculum, and one which is appropriate to students' needs and intended to achieve its stated aims.

4.2.2 Needs Analysis: background

Needs Analysis is an approach to language teaching which surfaced during the 1970s in the field of language acquisition planning and by the 1980s its use had become widespread (Nunan, 1988:43). Initially, Needs Analysis explored processes for the specification of behavioural objectives and these analyses later developed into detailed explorations of different syllabus elements, such as functions, notions, objectives and lexis. Around the same period (late 1980s – 1990s), with a new form of language teaching, Language for Specific Purposes, emerging, experts were grappling to give birth to a more comprehensive and better LSP syllabus (Phan Le Ha, 2005) and took advantage of the new form of language teaching to develop an approach to course design based on the specific needs of learners in specific contexts, and one which focused on the learners rather than on lexis.

Needs Analysis (also known as needs assessment) plays a vital role in the process of designing and implementing any language course, be it English for Specific Purposes (ESP) or a general English course, and its centrality, as recognized by Songhori 2007, has been acknowledged by authors such as Richterich and Chancerel (1987), Hutchinson and Waters (1987), Berwick (1989), Brindley (1989), Tarone and Yule (1989), Robinson (1991), Johns (1991), West (1994),

Allison et al. (1994), Seedhouse (1995), Jordan (1997), Dudley-Evans and St. John (1998), Iwai et al. (1999), Hamp-Lyons (2001), and Finney (2002). This study uses the definition of Needs Analysis provided by Iwai et al. (1999) as set out in 4.1 above.

Munby 's (1978) work on syllabus design, set out in his 1978 work entitled "Communicative Syllabus Design" (CSD) prepared the ground for the Needs Analysis approach to become widely influential in the field of language syllabi design. Academics and linguists such as Davies (1981) strongly criticised Munby's CSD model, declaring that Munby's book needed to be totally revised before publication and claiming that the CSD was about needs alone, and did not include any analysis of the tension between needs and demands, that 'needs were private and demands public, and that it is arguable that language teachers are [were?] as concerned with the former as they were with the latter' (Davies, 1981:332). In spite of such criticism the CSD went on to become one of the most relied upon sources for syllabus design.

Mead (1982, quoted by Songhori, 2008) further criticised Munby's (1978) work, arguing that, while the aim of Munby's (1978) work was to provide a guide for innovative for syllabus design, the term "syllabus" was not precisely defined. In a more moderate tone, Hawkey (1980) criticised Munby for not having produced an actual teaching/learning syllabus. Notwithstanding such criticism, Jordan (1997) clearly supported Munby, arguing that his work 'had been very influential and [that the positive developments in syllabus design] had stemmed from, or were a result of reactions to [the CSD developed by Munby]' (Jordan,1997:24) (see also Richterich & Chancerel,1987; Hutchinson & Waters,1987; Berwick,1989; Brindley, 1989; Tarone &Yule, 1989; Robinson, 1991; Johns, 1991; West, 1994; Allison et al., 1994; Seedhouse, 1995; Jordan, 1997; Dudley-Evans & St. John, 1998; Iwai et al., 1999; Hamp-Lyons, 2001; Finney, 2002) I elaborate on some of these developments below.

Brindley (1989) and Berwick (1989) (cited in Songhori, 2008), offer definitions of different types of needs and aspects concerning a varied set of problems and limitations linked to the use of the concept of Needs Analysis. They also provide ways in which one might usefully be able to distinguish between needs identified by analysts and those expressed or experienced by learners. Similarly Hutchinson and Waters (1987), relying heavily on Munby's CSD model, developed the Communication Needs Processor (CNP). This model uses the basis of Munby's approach to Needs Analysis to establish the profile of needs through the processing of eight parameters

(purposive domain; setting; interaction; instrumentality; dialect; communicative key; target level), which in turn provides us with us a detailed description of specific communication needs (Munby, 1978, Songhori, 2008). Hutchinson and Waters (1987) rated Munby's work as 'a highly detailed set of procedures for discovering target situation needs', and 'the most thorough and widely known work on Needs Analysis' (1987:54). The need to view Munby's CNP not simply as a list of the linguistic features of the target situation but as a learner-centred approach to Needs Analysis geared researchers towards the use of this approach towards curriculum design and innovation, and led to subsequent developments, i.e. formal needs analyses, such as the one conducted in this study to (i) find out what textbooks are used in the three different faculties selected in the provision of ESP-EAP, (ii) gauge how appropriate or dated the textbooks are, (iii) establish whether the content of the textbooks caters for the teaching of the appropriate reading skills/strategies to enable learners/readers to cope with texts in English, and (iv) find out whether, from these acquired skills/strategies, these learners/readers are able to construct meaning adequately for their learning process, given that the 'presumed'²⁴ focus and aim of the ESP-EAP courses at UEM is to provide learners with the appropriate reading skills/strategies to enable them to read authentic texts in a foreign language, English.

My Needs Analysis took into account many of the aspects that evolved from Munby's initial work and CNP model, including and in particular Chambers' (1980) introduction of the term *Target Situation Analysis*, for example, and many other terms such as *Present Situation Analysis*, *Pedagogic Needs Analysis*, *Deficiency Analysis*, *Strategy Analysis* or *Learning Needs Analysis*, *Means Analysis*, *Register analysis*, *Discourse analysis*, and *Genre Analysis* which he introduced in his evaluation of Munby's work (Songhori, 2008). These terms are described and discussed individually in the remainder of this section.

Chambers' *Target situation* in relation to Needs Analysis for the purposes of curriculum design and/or innovation, was first used in 1980, two years after the publication of Munby's (1978)

²⁴ I write 'presumed' because I have not found any written documents that elucidate the exact course/subject objectives, i.e. why, or for what purpose, the English language is taught in the various faculties. I assume, and given the direction of several staff meetings in the former English Department, that now amongst a section in the Language Department, has pointed to 'reading enhancement', that the objective was (is?) the development of students' reading skills for them to be able to extricate and/or construe meaning from written materials in English, the language in which most academic books and articles are published. Moreover, the types of textbooks and manuals adopted for the provision of classes provides evidence of the type of English, ESP and EAP and English is administered during the first 2 years of degree course in most faculties and 4 years in the faculty of Arts and Social Sciences. for most delivered .

work on CNP, and built upon Munby's (1978) work. It helped to clarify the confusion around the terminology of Munby's CNP. Chambers' Target situation analysis (TSA) addresses "communication in the target situation". Munby's Communicative Needs Processor (CNP) helped Needs Analysis move towards placing the learner's purpose(s) for communicating in the central position within the framework of Needs Analysis. As a result the notion of target needs became paramount in evaluation and research on Needs Analysis, and research proved that both the function of the communication and the situation within which it takes place were also fundamental in any Needs Analysis model.

The *Present situation analysis*, a term first proposed by Richterich and Chancerel (1980), can be considered complementary to the TSA (Robinson, 1991; Jordan, 1997) in the sense that the latter tries to establish what the learners are expected to be like in terms of their ESP competency at the end of the language course, whereas the former attempts to identify what their level of competency at the beginning of it. In this context Dudley-Evans and St. John (1998:125) argue that "a PSA estimates strengths and weaknesses in language, skills, learning experiences." In this approach the sources of information are the students themselves, the teaching establishment, and the user-institution (Jordan, 1997). According to Songhori (2008), a Needs Analysis may be seen as a combination of TSA and PSA. Nevertheless, one cannot rely either on TSA or PSA as reliable indicators of what is needed to enhance learning and to reach the desired goals of an ESP-EAP curriculum or course and thus other approaches to Needs Analysis have been proposed, one of which is the *Pedagogic Needs Analysis*.

The *Pedagogic Needs Analysis* (PNA) is a term proposed by West (1998) as an umbrella term to describe the following three elements of a Needs Analysis: *deficiency analysis*, *strategy analysis or learning Needs Analysis* (See Hutchinson & Waters, 1987; Allwright, 1982; West, 1994; Jordan, 1997; Dudley-Evans & St. John, 1998) and *means analysis*. According to West (1994), the shortcomings or limitations of target Needs Analysis should be compensated for by collecting data about the learner and the learning environment. *Deficiency analysis*, described by Songhori (2008) as the route to cover from point A (present situation) to point B (target situation), aims to consider or analyse learners' present needs or wants, which can be described as *deficiencies* or *lacks* in Hutchinson and Waters' terms (1987) and on the route from A to B, one should continuously keep the learning needs in mind (West, 1994). According to this model,

Jordan (1997) suggests that *deficiency analysis* can form the basis of the language syllabus on the grounds that this kind of Needs Analysis should essentially provide data about both the gap between present and target extra-linguistic knowledge, mastery of general English, language skills, and learning strategies (Jordan, 1997). *Strategy analysis or learning Needs Analysis*, on the other hand, as described by West (1998), is a type of Needs Analysis that relates to what strategies learners employ in order to learn another language – how learners wish or choose to learn rather than what they need to learn. This approach to Needs Analysis differs from all the other approaches in that it is concerned with learners' views of learning and how they learn. *Means analysis* tries to investigate those considerations that Munby's (1978) CNP work excluded, such as matters of logistics and pedagogy that led to debates about practicalities and constraints in implementing needs-based language courses (West, 1994). *Means analysis* provides us with information about the environment in which the course will be run and thus attempts to adapt the ESP-EAP course to the respective cultural environment (Dudley-Evans & St. John, 1998:125). One of the main issues *Means analysis* is concerned with is an "acknowledgement that what works well in one situation may not work in another" (Dudley-Evans & St. John, 1998: 124), and that, as noted by Songhori's 2008 review, ESP syllabi should be sensitive to the particular social and demographic environment in which the course will be offered or presented. This is corroborated by Jordan (1997) who saw this kind of analysis as providing curriculum planners with a tool for designing an environmentally sensitive course. As has been mentioned, there are several factors to be taken into consideration when attempting to design a more environmentally sensitive curriculum: (i) classroom culture, (ii) EAP staff, (iii) pilot target situation analysis, (iv) status of service operations, and (v) study of change agents.

Finally, the following terms in the Needs Analysis field have been included by Songhori (2008): *Register Analysis*, *Discourse Analysis*, and *Genre analysis*. These will be briefly defined and discussed based on the work carried out by Songhori (2008).

Register analysis, seen as the study of subject specific vocabulary and grammar in the 1960s and early 1970s, and was aimed at understanding the elements in the sentence specific to a particular discipline or field of study, and was also used in pedagogic strategies to make an ESP course more relevant to the learners' needs in terms of their specific fields of study (Hutchinson & Waters, 1987). The assumption underlying register analysis was that, while the grammar of

scientific and technical writing does not differ from that of general English, certain grammatical and lexical forms are used with a high frequency in certain contexts (Dudley-Evans & St. John, 1998). Because of the nature of register analysis (it operated only at word and sentence levels and not beyond any of these levels) this approach was highly criticised for: (i) its restrictedness to word and sentence level analysis (West, 1998), (ii) its descriptive yet not explanatory nature (Robinson, 1991), and (iii) its 'rigorousness', or narrowness: most materials produced under the banner of register analysis followed a similar pattern in which a long non-authentic specialist reading passage began most lessons/units and was followed by exercises (Dudley-Evans & St. John, 1998)

Due these limitations, a second phase of development followed and attention was shifted to a level beyond the word: *Discourse Analysis* (DA) (also known as rhetorical or textual analysis). DA is a field of study pioneered by scholars like Lackstrom, J. E., Selinker, L. & Trimble, L in the 70's and Trimble (1981, 1985) (Songhori, 2008) in which the main focus is on the text and on the writer's purpose rather than on the sentence and form, respectively (Robinson, 1991). According to West (1998) discourse analysis tended to concentrate on how sentences are used in the performance of acts of communication and to generate materials based on functions for ESP-EAP courses.

West (1998) and Dudley-Evans and St. John (1998) each mentioned a series of limitations concerning discourse analysis as it was applied to Needs Analysis. The former argued that this type of analysis remained fragmented and, despite identifying the functional unit at sentence level, it was limited in its explanation of how functions and sentences matched. The latter also referred to the limitations and failure of discourse analysis because it did not take sufficient account of the academic or business context in which communication takes place. This was seen to be taken into account with the emergence of genre analysis.

The term 'genre' in *Genre Analysis* (GA) - first mentioned by Swales (1981), is defined as "a more or less standardized communicative event with a goal or set of goals mutually understood by the participants in that event, and occurring within a functional rather than a personal or social setting" (Swales, 1981:10-11, quoted in Robinson, 1991). Bhatia (undated) extended the definition of genre analysis to include the study of linguistic behaviour in institutionalized academic or professional settings. Although DA may sometimes overlap with GA, a clear

distinction is made between the two by Dudley-Evans and St. John (1998: 87, cited by Songhori, 2008:19):

Any study of language or, more specifically, text at a level above that of sentence is a discourse study. This may involve the study of cohesive links between sentences, of paragraphs, or the structure of the whole text. The results of this type of analysis make statements about how texts -any text-work. This is applied discourse analysis. Where, however, the focus of text analysis is on the regularities of structures that distinguish one type of text from another, this is genre analysis and the results focus on the differences between text types, or genres. (Songhori, 2008:19).

Different text types or genres will demand different types of ESP-EAP courses, or units within these courses, either an EAP-ESP course that is 'narrow-angled', enabling learners with a restricted competence in the L2 and/or FL to cope with clearly defined tasks, or 'wide-angled', a course that is closer to a general purpose English course, providing learners with opportunities to develop a general capacity to enable them to cope with undefined eventualities in the future (Widdowson, 1983:6, in Bruce, 2005). Thus Genre Analysis should provide the theoretical basis or model for defining and planning an EAP course specific to the learners' (and the institution's) objectives, resulting in a more narrow-angled course (Bruce, 2005:2).

Genre analysis brought the study of linguistic behaviour in institutionalized academic or professional settings into the field of ESP-EAP. A genre-based approach to language program development' as stressed by Bruce (2005) aims to incorporate discourse and contextual aspects of language use that are often under attended to in programs based only on the lower-level organizational units of language (structures, functions, or vocabulary). . Although formal Needs Analysis is relatively new to the field of language teaching (Iwai et al., 1999), such analyses have been carried out in the past and still are today, by teachers almost everywhere in the world to assess which language skills and competencies their students needed to master. Some of these informal needs analyses were carried out to gather data to complement formally designed generic syllabi during their implementation because of the existence of gaps and or *lacks* particularly in relation to specific environmental contexts in which the curricula were being presented and taught. It was my intention in this study to consider all aspects of both formal and informal Needs Analysis approaches to curriculum development and improvement.

In this process I attempted to use as many of the aspects discussed above as possible that are related to Needs Analysis to analyse and evaluate the content of the textbooks used in the ESP-EAP courses at the UEM in order to gauge their validity and relevance for the present and possibly subsequent course design and improvement. As mentioned elsewhere, I will attempt to develop a template for an EAP course design for the UEM based on the skills and strategies used by the learners in such courses, and the *lacks* identified through other research methods used in the present study.

4.3 Methodology

4.3.1 Needs Analysis

For the purposes of the present study my intention was to gather data on an ESP-EAP course that has been in implementation for a long time, possibly more than 15 years. I believe that one of the best ways to understand what is happening with this long standing and yet to be reviewed and/or reformulated course is to utilise the suggested methods and measurement criteria in the different Needs Analysis approaches or models (CNP, TSA, *Deficiency analysis*, *Strategy analysis* or *Learning Needs Analysis*, *Means analysis*, *Register Analysis* (although I do not discuss lexical items *per se* in any detail), *Discourse Analysis*, and *Genre analysis*, whose function in any ESP-EAP course design is indisputable (Songhori, 2008), and as earlier posited by Johns (1991). These authors, and other researchers, see Needs Analysis as the first step in any course design, providing as it does the necessary validity and relevance for all subsequent steps. My intention was therefore, partially based on the model of Iwai et al. (1999), to embark on an activity and/or carry out a number of activities to collect information ‘that will serve as the basis for [...] improving [an existing curriculum] as well as finding out about the content materials used in it, the validity of the materials used and so on, that will meet the needs of a particular group of students or institution’ (Iwai et al., 1999). It should however be noted that the main goal of was not to design a new curriculum or syllabus or a course from scratch, but to investigate the current EAP-ESP practices and learn about their relevance, appropriateness and validity for the current situation in terms of research done on reading strategies, and, the basis of the findings of the

Needs Analysis, suggest certain changes and/or revisions based on a “new” template for an EAP-ESP course.

4.3.2 Questionnaire

To complement the Needs Analysis and to substantiate the idea that all stakeholders, many of them better placed than me, need to have a say in a process that may result in change, the study included a questionnaire that I administered to language practitioners in the English section to find out their views on the use of the First Certificate Textbook as well as other issues related to the teaching and learning of English as a Foreign Language in EAP-ESP courses at the UEM.

The questionnaire was designed adapting a questionnaire developed by Sandra Bouwmans (available at <http://maf.mod.gov.my/pendidikan/borang/borangneeds.pdf>). The adjustment and adaptation of the questionnaire were done in order to contextualize it to the setting of the study and partly to suit language practitioners in the English Section of the Language Department of UEM.

Due to all that has been written about questionnaires, their nature and characteristics, and the reliability and validity of this cost-effective tool of research, it is worth devoting a few lines to the main aspects regarding the nature of a questionnaire and other related issues. In addition some of the aspects related to curricula reform, such as the teaching methodology, should be inferred from certain sections of the questionnaire.

The rationale behind the questionnaire, in particular relating to its validity and as a research tool, dates back to the 1980s and 1990s with works by O'Malley, Chamot, Stewner-Manzanas, Kupper, and Russo (1985), and Johnson (1994). Recent work in the field has been carried out by scholars such as Presser et al. (2004), Coleman and Briggs (2005), Saw and Ng (2001), Sushil and Verma (2010), and Cohen et al. (2011).

However it has only been in the past 25 years or so that survey questions and instruments have begun to be evaluated and updated in a more detailed and systematic way using theories and methods derived from cognitive and social psychology. The development of the Cognitive Aspects of Survey Methodology (CASM) movement in the 1980s, which grew out of two

meetings (United States in June 1983 and Germany in July 1984) (Jabine et al., 1984; Hippler et al., 1987), has brought to the fore the importance of participant task analysis and measurement error. For a more detailed history of the development of the CASM movement see Tanur et al. (1999) and Aborn et al. (1999).

The first danger posed by the use of a questionnaire as a research tool, despite its wide use in research, is that of questionnaires being used in different ways in similar studies designed to answer the same research question(s). This often results in the ‘inability to compare data across studies or to do a meta-analysis from various similar studies’ (Sunil & Verna, 2010). Being one of the widely used tools to source quantitative data, its design is taken for granted and more emphasis placed by researchers on the study *per se* rather than on the reliability or validity of the instrument. Thus can when the researcher is ‘unaware’ (borrowing Sunil and Verna’s term) of the extent of the validity and appropriateness of the questionnaire itself the validity of the findings of the study can be compromised.

I would argue that a logical number of sequential steps is involved in the planning and designing of questionnaires as reliable data collection instruments, from the decision by the researcher on what kinds of data s/he wants to collect from the questionnaire, the precise wording (simple, general and/or specific clarity in terms of how to measure the answers/data obtained, the avoidance and/or elimination of ambiguity, imprecision and assumptions (Cohen. et al., 2011). Further, the questionnaire should not include leading and presumptuous questions, however difficult these are to avoid; attention needs to be paid to such double and or triple questions as, “*Have you been helped with the ‘provision of the education’ component and did it help with your understanding of social unrest in education and striking technique?*” or “*Is the quality of teaching, student support systems, thesis supervision in faculties and placements reasonably high at the university?*”. Allowance needs to be made for adequate time for participants to spend completing the questionnaire, and for testing or trialling it with a pilot sample of participants to check its reliability and validity before being distributed to the main research sample (Johnson, 1994; Coleman & Briggs, 2005; Cohen et al., 2011).

Unlike interviews (structured and or semi-structured) where the interviewer is in control of the data collection process, the questionnaire ‘*empowers the respondent*’ (Johnson, 1994:37) and allows him/her to decide the fate of the outcomes, i.e. he or she may complete the task and hand

it back on time, or simply refuse to do so. The latter response on the part of participants can be to some extent avoided if the design process of the questionnaire takes into account four essential aspects to make it effective as a research tool, even if participants decide to exercise their power by not completing, or by spoiling the questionnaire:

- i) ensuring that the questionnaire is clear and comprehensible to the participants,
- ii) getting the questionnaire into the hands of appropriate participants,
- iii) motivating the participants to complete and return the questionnaire, and
- iv) making effective administrative arrangements for the return of the questionnaire.

(Johnson, 1994:38)

Despite following the above to steps, it can happen that a large number of participants may not complete and or return the questionnaire. In addition participants may give answers and or data that present them in a favourable light (Jobe & Mingay, 1989). While this ‘*empowerment*’ feature may be one of the many drawbacks of this type of research tool, it does not necessarily hinder its use as an effective tool for research. Its effectiveness and/or relative reliability/validity depends on the way(s) in which such a tool is validated. Although it is a given that research outcomes are directly dependent upon the quality and the completeness of the data used, as Sushil and Verma (2010) point out the short-sightedness of some researchers: ‘*the concerns of willingness to respond, discriminatory power, comparability, responsiveness/reliability and validity of data seem sometimes to be forgotten*’, as is the valuable body of knowledge and experience of other disciplines, especially the cognitive and social sciences. This is inherent in many fields of research and particularly pertinent to this study, given that, as has been mentioned, recent evaluations of questionnaires as data collection tools have been making use of theories and methods derived from cognitive and social psychology.

Although standardized questionnaires of the same genre could increase efficiency and productivity, without reliability, there can be no validity. It should be noted here that no two questionnaires are the same in all respects, and when designed and/or adjusted/adapted for a study, even one in the same field, the known validity and reliability of the original published questionnaire may change and thus should be ascertained as much as possible (Presser et al, 2004) for one cannot assume that its level of validity and reliability would be the same in a different context with a different research population. Given that the reliability of an instrument

is the degree to which a measure gives ‘consistent’ or ‘reproducible’ values when applied in different situations, every questionnaire should undergo its own validation process (Presser et al., 2004). Thus the process of validating a questionnaire as a research tool would involve the following: i) a reduction of bias²⁵ by detecting ambiguities and misinterpretations; ii) pre-examining the feasibility, acceptability, time needed to respond, cost etc. , and iii).the researcher examining the variations in response, and in so doing, maximising the possibility of collecting better quality data (Sushil & Verma, 2010).

Finally, as has been mentioned, the essence of using a questionnaire as a research tool lies in the fact that the researcher is in the hands of the participant as does his or her decision whether to complete the questionnaire or not, or whether to answer the questions as expected by the researcher and or to give unrelated responses. Thus it is crucial that the tool is piloted prior to handing it to the participant and any weaknesses rectified. Thus if adequate steps are taken prior to the main data collection the questionnaire can be a reliable and cost-effective research tool.

4.4 Procedures

4.4.1. A review of three textbooks

Three textbooks selected from those used at UEM in the different EAP-ESP courses in different faculties were reviewed:

1. *Physics – Developing Reading Skills in English* (materials for language practice series) published in 1985 by Pergamon Press Ltd first year undergraduate degree in Physics in the Faculty of Science.
2. *English in Biological Sciences* (English in Focus series) for the first year undergraduate degree in Biology in the Faculty of Science, published by 1985). Oxford University Press.

²⁵ Bias often occurs due to distortions in procedures and characteristics of instruments, observers, and investigators; it can also occur due to intentional acts on the part of researchers - unintentional, arising from instruments. Investigators tend to find out the sources of bias and attempt to design instruments or methods that avoid it, hence efforts in designing studies involving ‘the avoidance of bias’ (Spector, P (1981:13-158, cited in Sushil and Verna, 2010).

3. *First Certificate Expert* (First Certificate Expert Series) for the first year undergraduate degree in translation and interpretation (English-Portuguese) in the Faculty of Arts and Social Sciences, published by Cambridge University Press in 2003.

The analysis was intended to focus on: (i) the structure of the textbook, (ii) the content and relevance of the textbook for the degree course, (iii) identifying of the type of exercises for the teaching and enhancement of reading skills and a (iv) classification of the identified reading skills, following different taxonomies of reading skills and strategies (see Annex A). The results of the analysis were compiled in a table to facilitate the detection of relationships between identified readings skills, types of textbook exercises and the type and/or category of reading strategy as defined by the different taxonomies. Once identified, the different reading skills/strategies were classified as either cognitive or metacognitive (the umbrella terms), and then subdivided into (a) academic support strategies/skills, (b) text comprehension strategies/skills, and (c) language focus skills/strategies. These results are presented in summarized form in Annexes A, B and C, Tables 1A, 2B and C3 in the Appendices.

The findings of this exercise were used to inform the content of the reading test (IELTS reading section) (Chapter 5 of the present study), the design of the cognition and metacognition questionnaire (Chapter 6) and the carrying out of the think aloud verbal protocols (Chapter 7).

4.4.2. Using a questionnaire

In order to substantiate the results and analyses carried out with the findings from the Needs Analysis and the IELTS reading comprehension test results, the study design included a questionnaire that was administered to all language practitioners in the English section, who teach in the different EFL and ESP/EAP courses in the three different faculties. The aim was to find out more about their views on the use of the First Certificate Textbook as well as other issues related to the teaching and learning of ESL and ESP/EAP at UEM.

The pitfalls of using questionnaires, in particular generic questionnaires, as reliable research tools and how these dangers can be avoided by following certain procedures is described in detail above. The procedures recommended by Johnson (1994) for maximising the reliability and

validity of the questionnaire as research tool were followed. As a first step the EAP-ESP teachers were informed of the aims of the study and of the questionnaire, and their queries and doubts clarified. In a meeting chaired by the head of the section, teachers as potential participants claimed to understand the objectives and operationability of the questionnaire. The period allocated to complete and return and the return date were agreed upon. We also agreed that the questionnaire would be sent to participants electronically and returned through the same channel to avoid paper work and save on time.

4.4.3 The Setback regarding completion of the questionnaire

Although the steps and procedures recommended by Johnson (1994) were carefully followed, the administration of the questionnaire in the present study could not be considered successful, as only three out of a group of twenty-one teachers in the English Section responded. Somewhat ironically, one could argue, this showed that the participants did indeed decide the fate of the outcomes of our study (cf. our conclusions). The colleagues who did not complete or return the questionnaire claimed not to use the First Certificate-handbook in their classes, and complained that the questionnaire was rather long and that they did not have the time to fill it in, amongst other excuses not worthy of mention. This was also a sensitive departmental and institutional issue. This drove me to reflect on the concept of ‘outstanding practice’ and the place of reflection posited by Kerfoot and Winberg (1997:11) who suggest that to become an ‘outstanding practice[d] [practitioner] requires passion and commitment, although, there are other affective aspects that play a central part in reflective practice’. They point out the contribution of a teacher’s reflection on in her or his practice to her or his development and interaction with colleagues and students and what influences this: a ‘teacher's underlying values and belief structures are important for him or her to becoming a reflective practitioner’ so that he or she can make a ‘deliberate attempt’ to become aware of his/her own beliefs about learning as well as those of people he/she will be interacting with. The values and beliefs of the teacher participants themselves could to some extent account for their attitude to completing the questionnaires and to their exempting themselves from contributing towards the improvement of the learning and teaching process and in so doing negatively affecting the development of language learning and teaching practices in their teaching context. However I would argue that

their attitude stems from a deeper systemic and/or institutional inertia. I elaborate on this in 4.7 in the concluding section of this chapter. Due to this attitude on the part of the selected EAP-ESP teachers, the sample of participants was not representative and consequently the findings from the completed questionnaires cannot be taken fully into account, yet partial. Qualitatively, however, the results have been taken into account in their totality and for the validity of the present study. I have for instance taken their lack of cooperation into account in the analysis of the findings below and in the concluding section of this chapter.

4.5 Data Collection

In order to manage the data collection for this part of the study I designed a table, partly adapted from a reading skills table used in a study by Errey and Li (2008) (see Annexes A and B) in which the reading strategies (cognitive and metacognitive) are subdivided into a) academic support strategies/skills, b) text comprehension strategies/skills, and c) language focus skills/strategies; and arranged in columns headed: Reading Strategy, Typology of Strategy and List of Identified strategies. The section numbers referencing the location of occurrence of the identified strategies and exercises in the textbooks have also been identified and included as part of the results. The identification of the reading strategies in the exercises and/or units in the textbook/manuals was done using the various sources concerning reading skills/strategies classification and/or taxonomies, i.e. those of Rosenthine (1980), Munby (1980), Weir (1984), and Sheorey & Mokhtari (2001). I should mention here that typical reading strategies used by readers include –the use of the index and scanning relevant paragraphs, the use of the index and/or contents and reading the relevant sections, skimming the whole or part of the text, reading carefully and taking notes. These strategies can often be confused and used interchangeably with what are sometimes referred to as skills. Such confusion does not cause any major misunderstanding: a skill can be seen as a generally accepted entity or an acquired ability that operates largely subconsciously, whereas a strategy is a conscious procedure carried out by a reader to solve problems in the comprehension process (Pang, 2008). Thus strategies, or metacognitive strategies, are conscious means by which students monitor their own reading process, including the evaluation of the effectiveness of their own cognitive strategies.

According to Devine (1993), cited in Li and Errey's 2008 study, strategies include the planning of how to approach the reading of a certain text, testing and revising ideas regarding the text, or deciding whether the reading speed is adequate for processing a text according to the purpose and time availability. As mentioned above, such strategies, sometimes referred to as approaches or orientations, are the learner's intentional plans for selecting and combining schema-based skills into routines. The reading skills/strategies classification tables, or reading taxonomies developed by Sheorey and Mohktary (2001) based on earlier taxonomies from the 1970s and 1980s are described in detail in Chapter 2 (2.2).

To complement the Needs Analysis I administered a questionnaire to lecturers in the English section of UEM. Some aspects of the SORS – *Survey- of- Reading- Strategies* (SORS) research tool were taken into account when designing the questionnaire for the current study to identify and classify the different reading strategies and skills purportedly being developed in the EAP-ESP courses at UEM using the selected textbooks. The SORS is an instrument used by researchers and language practitioners for discovering reading strategies purportedly used by post-secondary non-native students of English, and based upon the *Metacognitive-Awareness-of- Reading- Strategies- Inventory* (MARSI), originally developed by Mokhtari and Reichard (2002) which is a tool for measuring native English speaking students' awareness and conscious use of reading strategies while reading academic or related school materials. (See chapter 2 for details on various reading skills and strategies).

As has been mentioned the questionnaire template selected for and used in the current study was adapted and adjusted to suit the aims of the study and the context of the language practitioners and learners. This tool is available at <http://maf.mod.gov.my/pendidikan/borang/borang/needs.pdf>.

4.6 Results and Analysis

4.6.1. Textbooks

The analyses of both textbooks (#1) Soto, M S (1985) *Physics – Developing Reading Skills in English* and (#2) Pearson, I (1985) *English in Biological Sciences* yielded similar results. This, I believe, has to do with the time historically when the textbooks were compiled and edited and

because they belong to the same Nucleus Series of textbooks. These books were designed at a time when Needs Analysis initially explored processes for the specification of behavioural objectives and then went on to explore in detail different syllabus elements, such as functions, notions, objectives and lexis. The new form of language teaching mentioned above, Language for Specific Purposes (LSP) which emerged saw experts grappling to give birth to a more comprehensive and appropriate LSP syllabus' (Phan Le Ha, 2005). The Nucleus series language textbooks came out of that epoch, and were ostensibly designed and produced based on this new form of language teaching with an approach to course design based on needs which focussed on learners. However the Needs Analysis of the two textbooks in this study revealed a high level of register analysis features (operating only at word and sentence level and not beyond any of these levels), an approach highly criticised in the past by West (1998) and (Dudley-Evans and St. John, 1998) for its narrowness and use of 'non-authentic' texts unrelated to students' specific needs, and described in detail above in 4.1. ii) The findings of the analysis are presented below in a summarised form in Tables 1A, 2B, and C3 in annexes A, B and C.

Textbook #1 has 20 units, each with a reading passage followed by exercises and activities of three types:

(i) Understanding the aim and organization of the passage/text – mainly skimming exercises: e.g. providing subtitles/headings; identifying paragraphs; matching activities/exercises; factual questions,

(ii) Understanding the text: e.g. referencing; vocabulary – synonyms and antonyms, meanings; sentence/text completion;

matching exercises; completion of diagrams/tables with key words/phrases; affixation and suffixation, and

(iii) Study skills: e.g. identifying key words/phrases; note-taking; text completion with words from text; true or false exercises; diagram labelling/description; rearranging statements.

Textbook #2 it is made up of only 8 units (the most striking difference between the two textbooks) with two reading sections out of five in every unit. These are Section I dealing with Reading and Comprehension and Section V dealing with Reading and Note Taking. In Section I,

learners are expected to listen to important points, find out about the meaning of words, check facts and ideas, connect facts and ideas, define and name statements, avoid repetition, find the topic of a paragraph, use words and phrases with similar meanings, distinguish facts and beliefs, assess the truth of statements and relate what they read to what they know. Section V requires learners to take notes, enhance their scanning and skimming skills, and engage with various aspects of text comprehension, i.e. find detailed information, data, parts of the text (word, line, paragraph, section), perform matching exercises, rearrange text or paragraphs, summarize, label, transfer data or information from one point to another, answer factual questions using notes, deduce and infer. What is clear is that most of the exercises in both textbooks are aimed at enhancing the same skills and strategies or competencies. It can be inferred from this that the skills and strategies which are needed for the listed exercises will be identical in most cases.

The following academic supply strategies (also designated skills in Weir's and Munby's taxonomies) were identified from the reading sections of both textbooks; the use of dictionaries and the use of lists of references and bibliographies. A complete list of reading skills and strategies can be found in Tables 2 (Weir, 1984), 4 (Munby, 1978) and 5 (Sheorey and Mokhtari, 2001), respectively. The above reading skills, also strategies find parallel in Sheorey and Mokhtari (2001), i.e. support strategies #3; paraphrasing (support strategy #4) and assignment comprehension in Munby's (skills #3 and #4 in Munby's taxonomy), comprehension of grading scheme (metacognitive strategy #6 in Sheorey and Mokhtari's Taxonomy) also find parallel in each other.

The following text comprehension strategies were also identified in both textbooks: scanning (skills #16 and #13 in Munby's and Weir's taxonomies, respectively), skimming (skills #15 and #12 in Munby's and Weir's taxonomies, respectively); reading efficiently (covering a range of cognitive strategies in Sheorey and Mokhtari's taxonomy, i.e. cognitive strategies #1, 3, 4, 6, 10, 11), identifying key words (skill #13 in Weir's taxonomy), note-taking (classified as skills #12 and #13 in Munby's; skill #14 in Weir's and support strategy #1 in Sheorey and Mokhtari's), text structure recognition (metacognition strategy #4 in Sheorey and Mokhtari, but also classified as skills #1, 7–9 by Munby and skills #1, 3 and 5 in Weir's taxonomy), inferencing (skill #2 in both Munby's and Weir's taxonomies, but also #9 in Weir's), and finally decoding long sentences (skill #2 in Weir's, but it also covers a wide range of strategies in most taxonomies).

The following strategies focusing on language were identified: classifying and grouping vocabulary/lexical items (covering a wide range of classifications, namely skills #5, 10–11 by Weir; 11–13, 17 by Munby and metacognitive strategies #7 and #9 in Sheorey and Mokhtari's taxonomy), transcoding information onto a diagrammatic display (classified as skills #17 and #11 in Munby's and Weir's, respectively), and guessing the meaning of unknown words and phrases for (a) sentence completion, (b) sentence construction and (c) summarising (these and Sheorey and Mokhtari's taxonomy, but also skills #2 in both Munby's and Weir's taxonomies).

With regards to textbook #3 used in the Faculty of Arts and Social Sciences (Mann, R. With Jan Bell and Rocer Gower. *First Certificate Expert*. CUP), the Needs Analysis study revealed a rather different picture in terms of the structure of the textbook, given that the selected textbook is not designed for EAP-ESP, but is a textbook for commercially driven general English language teaching, i.e. in preparation for the Cambridge First Certificate in English (FCE) examination. The four skills, speaking, listening, reading and writing are almost evenly distributed within the textbook, but the reading texts are non-specialized and not ESP-EAP specific (specialized language, register, etc.). The textbook has 24 reading parts, one per unit and two per exam module. The reading part has different sections (multiple matching questions and summary, multiple choice questions and gapped sentences) which aim at testing the learner's language focus skills, i.e. classifying and grouping vocabulary/lexical items, transcoding information to a diagrammatic display, guessing meaning (unknown words/phrases) for sentence completion, sentence construction and summarizing. These are essentially skills for language users who wish to take the FCE Cambridge exam. This textbook was selected for use in the Faculty of Arts and Social Sciences as the core textbook in the English Language Teaching degree course and in the Translation and Interpretation degree course, formerly of four year's duration, now reduced to three years. . Its selection does not meet the main 'presumed' objective for the provision of English in the faculty, i.e. that of developing and/or enhancing academic reading skills/strategies.

Most faculties provide two or four semesters of academic English, but in the Arts faculty, the general English language course is offered for the full duration of the degree course. This amounted in the past to eight semesters but has now been reduced to six as a result of one of the most controversial curriculum reforms carried out at UEM. The stated aim of this course is not

the enhancement of academic reading skills/strategies to cope with authentic texts, but rather the development of an entire battery of competencies around the four skills associated with teaching English as a foreign language in primary and secondary schools on the one hand, and on the other hand, with becoming a translator and/or an interpreter of English-Portuguese, and vice versa.

The analyses of textbook #1 (Soto, M S (1985) *Physics – Developing Reading Skills in English*) and textbook #2 (Pearson, I (1985) *English in Biological Sciences*) yielded similar results and results that do not largely differ from those of studies done in the 1990s, such as that of Dudley-Evans and St. John (1998). The common nature of such manuals designed during the 1980s may be the reason behind that. The fact that they are from the Nucleus Series offers an additional justification for the type and nature of the findings. The findings of the Needs Analysis carried out in textbook #3 show its main focus to be on text comprehension strategies and on language focus skills, but not on academic support strategies. Textbooks #1 and #2 on the other hand clearly show an intention to provide the learner with a wide range of reading skills and/or strategies, i.e. cognitive, metacognitive and support strategies, despite the rigid structure in which these are framed and the different classifications by the different available taxonomies. Thus they could be said to be focussing on the learner.

Such disparity in terms of classification confirms the argument of various language learning researchers from the 1990s on that the terms “skills” and “strategies”, can be used interchangeably without causing major harm. Paris, Wasik, and Turner (1991) analysed and interpreted the relationship between these two entities and argued that an emerging skill can become a strategy when it is used intentionally. Similarly, a strategy can ‘go underground’ and thus be turned into a skill (ibid, 1991:611). Thus there can be a clear distinction between a strategy and a skill, although neither should be seen as separate or detached from the other; the evident relationship between the two sometimes raises confusion when discussing them. However, no harm is caused by this confusion if one designs a course focusing on either a skill or a strategy that is designated differently according to several available taxonomies. However, what may be detrimental to the development of EAP would be a course designed without taking certain crucial specific critiques into account. A first point of criticism with respect to the choice of textbooks in the three degree courses mentioned above is a disregard on the part of the course

designers for a balance between the several available skills/strategies. This seems to be particularly so in the case of textbook #3 which does not target academic supply strategies even though undergraduate students in translation and interpretation are expected to develop academic reading and writing skills and practices. A second, very important, point of criticism is the fact that in all three degree programmes the needs and desires of the several stakeholders involved have been ignored, or the stakeholders have not been consulted: institutions, lecturers, teachers, material designers on the one hand, and learners and/or users on the other have been left out of the decision-making process. In addition, the findings from the Needs Analysis revealed that the textbooks are structured in a rigid manner and allow little flexibility. The Needs Analysis also showed that the reading passages were outdated and in desperate need of replacement; this can be considered one of the main criticisms. Finally, none of the textbooks seem to take the discourse level (language level/ability of the students at UEM) into account and do not comply with Dudley-Evans and St. John's (1998)' suggestion that an ESP/EAP course should take on board 'the focus of text analysis [which] is on the regularities of structures that distinguish one type of text from another, [i.e.] . . . genre analysis and the results focusing on the differences between text types, or genres' (Dudley-Evans & St. John, 1998:87).

For these reasons and others, such as the fact that the textbook was hastily selected without any formal Needs Analysis or a study or consultation with stake holders, a Needs Analysis study to be carried by me on the First Certificate was commissioned by the section of English of the Language Department of the Faculty of Arts and Social Sciences, UEM, in the course of which the teachers were supposed to complete a questionnaire (also as part of the methodology tools in the present PhD, #6 of section 3.2.2, Solicitation of Participants), did not materialize. Only four (03) out of twenty-one (21) teachers in the English Section filled in the questionnaire; the majority allegedly claimed not to be using the *First Certificate* language textbook in their classes, and that the questionnaire was too long and that they did not have the time to fill it in, among other reasons. None of the teachers were held accountable for not cooperating with the study, nor did the head staff in section apply any corrective measures. It has been strongly argued that designing an EAP course in terms of understanding the objectives, content, methodology, pedagogy, etc., i.e, the '*hows*' and '*whats*', about any existing or projected course, requires collaboration among the various concerned stakeholders, including students, subject teachers, institutional administrators and EAP teachers themselves (Tajino et al., 2005; Kerfoot and

Winberg, 1997). Tajino et al. (2005) further argue that, although a Needs Analysis is often considered fundamental to EAP in terms of course design and improvement, alternative research methodologies may be required to facilitate meaningful collaboration between groups of stakeholders; data informing decision-making can be gathered through questionnaires, interviews, tests, audits, self-assessment forms, diaries and case studies, and by means of Soft Systems Methodologies (SSMs) (Jordan, 1997). Thus I decided to use a questionnaire to complement the Needs Analysis.

4.6.2. Questionnaire administered to language practitioners

Results from the questionnaire (see Annex E for a detailed comparative analysis) show that all three participants (03 out of 21) claimed to not use the *First Certificate* textbook. However, all three participants gave answers to Part I (Biodata) and Part II (Data on the subject taught at UEM). This is presented and analysed below in the present section.

The length of teaching experience of the 03 participants in the questionnaire phase of the research was between 5 to 15 years with the UEM. Their answers revealed that their perceptions of the purpose of teaching English at the UEM in the different faculties (Engineering, Sciences, and Arts and Social Sciences) were not uniform. A range of purposes (Q#1 Part II) emerged: one participant wrote '*for a degree course*' while another wrote. '*Teach English for general communication and English to respond to area of training*', and the third gave three different purposes: '*1. ESP was designed to enable students to read and research in English as well as develop basic writing skills; 2. Translation-related subjects are designed to train translators; and 3. Equip new university students to succeed in their academic life.*'

According to the participants, the type of students registered for these English courses come from heterogeneous backgrounds and are of mixed language ability with little English language competence, which, as one participant claimed, 'is upgraded as the course goes on'. The time and length of the course/subject varies from one faculty to another, but it is taught as a semester course in all faculties, ranging from one to two, and up to eight semesters in duration. According to the participants students must pass the subject like any other to complete the degree course. Further, responses show that there is a structured and institutional treatment of subject

results/marks, which are fed onto the department, as it is ‘a pedagogical requirement’, as posited by QR #3.

There was no clear consensus on the type of course/subject taught at the university. For instance, participants described the subject as English for General Purposes (x2) as well as English for Specific Purposes (ESP) (x2). One of the participants described it as a subject aiming at teaching/learning English for Academic Purposes (EAP). They all agreed that the students must write some sort of an entry exam to be accepted into the university and should have completed grade/standard 12. However, there no clear indication as to the level at which this subject is taught; all levels (Beginner, False Beginner, Elementary, and Intermediate for English Language Training, and Translation and Interpretation degree courses, Upper Intermediate, and Advanced) were ticked by the participants, reinforcing the idea of heterogeneity mentioned above.

All but one participant, who mentioned covering the four skills, listening, speaking, reading and writing, showed that the time devoted to teaching reading skills varies from course to course, i.e. to the question: **What percentage of the subject/course is spent on developing students’ reading skills?** The participants answered 30/40/25 (%) respectively. For this question the participants provided further data, for instance the fact that ‘*Students need much time for this skill*’ (QR#1) and ‘*Reading is incidentally developed by “reading” all hand-outs to guide students in the course, but in my subjects I haven’t had specific reading objectives outlined by UEM*’ (QR#3). Respondent QR#3 stressed the teaching of reading by writing ‘*For Chemistry about 50% of time goes to reading area specific materials*’.

There was consensus on the type of content materials used in classes. These range from *commercially-produced generalist texts* to *commercially-produced texts for ESP and EAP*. As for other types of texts, only one participant claimed to use *generalist authentic texts* such as newspapers, journals, DVDs, on-line materials, and two of the participants claimed to use *specialist authentic texts*, for example, technical manuals, university lecture notes, textbooks, etc., although the latter were not specified, only a name was advanced, *Murphy R*. The participants were also unanimous about the non-compulsory use of these materials.

Although the participants mentioned that they did not devote time to developing their students’ listening skills, this was considered one of the requirements for completing the course, and

included listening to extended lectures/briefs and summarising main ideas in note form, paraphrasing main ideas and supporting details, comprehending technical and academic vocabulary in professional settings as well as comprehending speech delivered with native-speaker fluency. More specifically, participants mentioned that students needed no specific speaking requirement in the ESP course, but needed to interact in everyday social and routine workplace situations as well as take part in small discussion groups related to work or study and/or deliver briefs, presentations to a specialist audience. Students needed also to respond questions in an area related to technical/academic expertise and communicate ideas in both formal and informal register, use subject-specialist vocabulary to communicate ideas and idiomatic and colloquial language. Respondent QR#3 wrote that students '*in the interpreting course [...] will need to be fluent to perform on the market*'. QR#3 speaking was '*extremely important for interpreting students to do well in their job*'.

In the area of reading skills, participants were in agreement in terms of the weight they gave this skill and claimed that students needed to read a range of general authentic texts on every day social and routine job related themes, e.g. newspaper articles/reports, briefs, 'read'/interpret data in tables and diagrams as well as being capable of reading and comprehending extended technical and academic texts to identify the main ideas and supporting details, understanding a wide range of technical/academic vocabulary in professional settings, and a range of texts related to specialist area of expertise, and understanding the author's point of view or purpose. These skills were deemed important '*for Chemistry graduates [...] when needing post-graduation*' and for translators to '*[...] enable them to translate accurately*'.

Participants also mentioned the need for students to have writing skills for writing formal and informal correspondence and documents on practical, social and professional topics. This included writing lengthy essays and papers on technical or academic expertise. On this issue, QR#3 wrote that writing skills would '*essentially [be] useful for translators as [these would] enable them to be able to translate into English in an acceptable way*.' Two of the three participants reported the need for students to develop independent learning skills, such as the use of pair and group work, e.g. in jigsaw reading or listening tasks, experimenting with new language, for example guided writing or role-plays, and using different reading strategies for different tasks, e.g. reading newspapers or specialist journal articles, and the ability to self-assess

their own language learning, work out answers using resources other than the teacher, i.e. using context to work out the meaning of new grammar and vocabulary, conventions of citation to acknowledge sources of information in academic essays or briefs, using the process of planning, writing and redrafting when writing extended texts, and critical listening or reading skills to evaluate texts.

4.7 Discussion of findings

The findings of the Needs Analysis carried out on textbooks (particularly #1 & 2) show a clear intention to provide the learner with a wide variety of reading skills and/or strategies, i.e. to a certain degree cognitive, metacognitive, and support strategies to a greater extent, despite, as has been mentioned, the rigid structure in which these are framed and the different classifications by the different available taxonomies. Such disparity in terms of classification confirms what scholars had earlier pointed out: that the terms, cognates, skills and strategies, are (can be) used interchangeably without major analytical misunderstanding.

I have mentioned elsewhere in the present study, in discussing the difference between a reading skill and reading strategy (Chapter 2, Section 2.4.1.1 and in the previous section - 4.5 - of this chapter), that Paris, Wasik, and Turner (1991) analysed and interpreted the relationship between these two entities, skills and strategies, and claimed that an emerging skill can become a strategy when it is used intentionally. Similarly, a strategy could ‘go underground’ and thus turn into a skill (ibid. 1991:611). As already mentioned, skill and strategy are interrelated in the reading process and that one should be aware of this when designing a course focusing on either a skill or a strategy that is designated differently in the different available taxonomies.

What should be avoided is a course designed without taking into account the balance between the several available skills/strategies, and, as has already been stressed, without taking into account the needs and desires of all the stakeholders involved, and the data that might have been gathered across all of the stakeholders through a Needs Analysis.

The findings from the Needs Analysis also revealed the textbooks to be structured in a rigid manner, allowing little flexibility in terms of teaching and learning. The Needs Analysis also

showed the reading passages to be outdated and in desperate need of replacement – hence the need for a Needs Analysis as a first step in the process of designing and implementing language courses such as ESP –EAP, or a general language course. The ‘centrality’ of Needs Analysis to this process is recognized by Songhori (2007), and acknowledged by scholars, such as Reichterich and Chancerel (1987), Hutchinson and Waters (1987), Berwick (1989), Brindley (1989), Tarone and Yule (1989), Robinson (1991), Johns (1991), West (1994), Allison *et al.* (1994), Seedhouse (1995), Jordan (1997), Dudley-Evans and St. John (1998), Iwai *et al.* (1999), Hamp-Lyons (2001), and Finney (2002) ‘Such a course should also take on board *‘the focus of text analysis [which] is on the regularities of structures that distinguish one type of text from another, [i.e.] ... genre analysis and the results focusing on the differences between text types, or genres’* (Dudley-Evans & St. John,1998:87).

The findings from the questionnaires (03 participants) also revealed a need to carry out a formal Needs Analysis at UEM. For instance, as presented in the section above (see section 4.5) evidence has shown that there is no clear policy indicating the main purpose of delivering English classes to students, which suggests the dismembered and unstructured nature of the mechanism that caters for curricula and/or programme issues. While one participant claimed not to be using the First Certificate Textbook, his or her response (QR#3) to Part IV of the questionnaire included some illuminating insights, and suggestions on the content of a textbook more appropriate to students’ needs:

Please note that I have no comments whatsoever on FCE [first certificate textbook] because I have never taught through it. However, I must say, using one book only will be effective if all integrated skills in it are taught properly. That is not happening at the moment, e.g. there is no suitable listening equipment. we also need video/DVD materials! We need to modernise. I also think we need to put more emphasis on (accurate) speaking and writing because the quality of translations and interpreting we have in our students is still poor. Clearly by the time they about to graduate they haven’t mastered English. Thus a good cross-cutting grammar component is necessary. We should seek ways of teaching English in less “academic” way. I mean, it is perhaps not as effective to teach morphology or syntax (from a linguistics point of view) as would be to simply teach them more correct grammar and give them enough opportunity to demonstrate that. I know many students who cry and thank god when they “survive”, but clearly haven’t learnt enough. (QR#3).

This comment, besides indicating the level of awareness of a UEM teacher of the gaps in the existing resources for an EAP-ESP textbook, shows clearly the lack of any links between an

institutional or departmental decision to use a particular/specific textbook, and the practice on the ground: teachers in the classroom use different non-sanctioned materials and texts/manuals, which are not compulsory, but which they, as individuals, feel fulfil the actual needs of students who are developing their EAP-ESP competencies, and indicating an urgent need to carry out a formal Needs Analysis to identify the *'the regularities of structures that distinguish one type of text from another'*, the typology and differences between the texts/manuals to be used closely linked to the aims/objectives of the course/programme offered by the institution. As already mentioned (see section 4.1), it is crucial in the field of EFL-ESP/EAP that major decisions, such as the textbook to be used, new curricula, and curricula reform be made through the appropriate procedures and processes, including the preliminary step of a *Needs Analysis*, described as a set of activities that are involved in collecting information that will serve as the basis for developing a curriculum, or improving on an existing one, as well as establishing the validity and relevance of the content materials in terms of meeting the needs of a particular group of students or institution (Iwai et al., 1999; Songhori, 2008). In this context the lack of a cohesion and coherence of the responses of the three participants in terms of the purpose of English courses at UEM, has already mentioned, their answer ranging from 'for a degree course', 'for general communication, or for an 'area of training', to training students to '...read, research and write in English and to training translators.

Only one of the participants' answers (QR#3) bears any resemblance to my earlier posited 'presumed' aim of an English language course at the Eduardo Mondlane University, that of enhancing students' reading skills and/or strategies. However, it can be inferred from the his/her responses to the questionnaire that the participant was describing his/her own experience of teaching English as a specific course at the UEM, and/or that of working with students in different degree courses. No evidence could be gathered from the responses to the questionnaire that the UEM as an institution had at any stage carried out a formal Needs Analysis to corroborate the participant's view that an ESP [course] should be designed to *'enable students to read and research in English as well as develop basic writing skills'* and to provide a general translation course for translators. Thus there appears to be a distinction between the idea of a specialist/specific type of course, as described by one of the participants, and a general one, as presented by the other two participants. In this context it is important to note again, as was mentioned in 4.1, that different text types or genres will demand for different types of ESP-EAP

courses (Bruce, 2005). This could be a narrow angled EAP-ESP course – enabling learners with a restricted competence allowing them to cope with clearly defined tasks (ESP [course] being ‘designed to ‘*enable students to read and research in English as well as develop basic writing skills; ‘when needing post-graduation’ and ‘enable them to translate accurately’*) or a wide-angled that is closer to a general purpose English course, allowing learners to have a general capacity to enable them to cope with undefined eventualities in the future (‘*equip new university students to succeed in their academic life*’) (Bruce, 2005). Thus Genre Analysis should provide the necessary grounds to define the type of ESP- EAP course as more specific to the learner and the institution’s objectives.

The arguments encompass a number of problematic aspects/issues relating to an ESP course which should serve both students’ and institutional needs and goals, and that can be catered for as a result of an adequate Needs Analysis (formal) process: the use of ‘*one book*’ instead of several, when this book does not cater for all the required and desired skills, the stated focus on all skills for the course, yet not clear purpose being mentioned, the type, quality and appropriacy of support materials for any given course to support the attainment of the goals/objectives/purposes defined, the type of course - specific, specialist, general or a combination of these, and, a very important aspect that is mostly left out, the needs of the students during and post course.

A major objective of the study was to gather information on the First Certificate Textbook and, to complement this, have language practitioners identify and/or list the reading skills taught in class, the reasons for teaching these and the results they expected from teaching them. On that issue participants were in agreement and all three mentioned the weight placed upon, and relevance of, this skill. In their view students needed to read a range of general authentic and specialist texts on various topics (daily issues, social and job related themes and topics). One important aspect, and highly relevant to the present study, is the mention by a participant of appropriate reading skills/strategies ‘*for Chemistry graduates [...] when needing post-graduation*’, and *for translators to [...] enable them to translate accurately*’.

The skills that would enable this learner to translate accurately include the interpretation of data in tables and diagrams, identification of main ideas and supporting details, technical vocabulary and understanding the author’s point of view or purpose, as well as having a notion of the

typology of text and its relation to a field of study. The idea of an appropriate EAP-ESP foreign language course emerged clearly from the participant's responses, even though they had not stated a clear purpose for and/or described in specific terms the type of course/programme for the teaching of English at the University, pointing again to the need to provide an appropriate and evidence-based and/or theoretical/research supported platform for designing such a course by means of a Needs Analysis. I and other researchers such as Tajino et al. (2005) would argue that only a Needs Analysis could provide the appropriate information as a basis for EAP course design and improvement (Jordan, 1997; 2004). Tajino et al. (2005) remind us of the need to use varied alternative research methodologies to facilitate meaningful collaboration between the parties involved in designing or improving an existing ESP course. Examples of these have already been mentioned.

Also mentioned is that no two programmes are the same and work differently in different contexts as Dudley-Evans and St. John (1998:124), appositely cited in Songhori's 2008 review, emphasize. Thus, to fulfil its aims, a course needs to be informed with the appropriate data collected through a Needs Analysis process. In this context, as has been mentioned, Munby's (1978) work on curriculum design has served as a template for approaches to Needs Analysis and has established the profile of needs through the processing of eight parameters: purposive domain; setting; interaction; instrumentality; dialect; communicative key; target level; particular cultural environment; classroom culture, type of staff; status of service operations; and grounds to pilot Needs Analysis results (Jordan, 1997). This profile is intended to help a language practitioner, a researcher, and the administrator to avoid duplicating and/or institutionalising programmes/courses/use of textbooks blindly in a context other than one for which these had been specifically designed/developed.

These approaches, as discussed above, would in turn provide the language practitioner, the researcher, and the administrator a 'detailed description of specific communication needs' (Munby, 1978; Songhori, 2008), which, as with the formal Needs Analysis carried out in this study, can in turn, help to establish the appropriacy and currency of the textbooks used in various faculties for EAP-ESP in terms of content appropriate to students' needs.

A research based Needs Analysis which takes on board the results of a discourse study is central to the design of an appropriate language course and is in fact the first step in the process towards

an appropriate and collaboratively designed curriculum using, as Tajino et al. (2005) advocate, other alternative research methodologies that facilitate meaningful collaboration between all stakeholders.

4.8 Concluding remarks

The questions I set out to find answers to in this phase of the study in terms of the appropriacy of the textbooks used in three selected faculties have been partially answered in terms of whether they measure up to the ‘presumed’ focus of the provision of ESP-EAP at UEM: to provide learners with the appropriate reading skills/strategies to enable them to read authentic texts in a foreign language, English.

The analyses of textbooks #1 and textbook #2 yielded results that do not largely differ from those in past studies such as that of Dudley-Evans and St. John (1998). The common nature of the manuals, and the period in which they were designed, may be the reason, besides the fact that they are from the outdated Nucleus Series.

The behavioural syllabus- based (rather than learner-centred) nature and focus of needs analyses at the time these textbooks were designed and published has already been described in 4.5, as has the influence of the Language for Specific Purposes model on the avoidance of bias in language research by finding out the sources of bias and attempting to design instruments or methods that avoid it (Spector, 1981, pp. 13–158, cited in Sushil & Verma, 2010). The results of this have been described in the form of more comprehensive and appropriate LSP syllabi (Phan Le Ha, 2006). Textbook series such as the Nucleus series (textbooks #1 and #2) resulted from that epoch, and although ostensibly designed to take advantage of this new form of language teaching to come up with an approach to course design based on needs and focusing on learners, significantly these two textbooks do not operate beyond word and sentence level and, as was described above in 4.5, were criticised for this and for their use of non-authentic texts and outdated comprehension exercises (West, 1998; Robinson, 1991; Dudley-Evans & St. John, 1998). It is likely that the textbooks used in classes, and/or their methodology, coupled with the way goals are defined at UEM, may affect the degree and quality of reading comprehension of

the learners at UEM as well as their language competence or lack and/or poor use of reading skills. These and other variables will be dealt with in Chapter 5.

As has been mentioned, designing an EAP course, requires collaboration among various concerned stakeholders, including students, subject teachers, institutional administrators and EAP teachers themselves (Tajino, James, & Kijimac, 2005), and that, although a Needs Analysis is often considered fundamental to EAP course design and improvement, alternative research methodologies, as advocated by Jordan, (1997, 2004) may be required to facilitate meaningful collaboration between these parties. As one of the main sources of data intended to inform a possible change of approach to curriculum design, the questionnaire was used to draw information on the teaching of English at UEM from practitioners as stakeholders in the decision-making process. However, as stated above, only three participants completed the questionnaires. This lack of collaboration and the ignoring of the decision of their superiors in the English Section hierarchy to undertake a commitment to run a study to find out more about the status of the teaching and learning of English and the views, and rationale behind the use of particular materials at UEM, led me to conclude that there is a systemic problem at UEM not specifically related to the appropriacy of teaching materials: practitioners clearly have mixed feelings about developments and innovations in curricular reform. The scarcity of information obtained from the questionnaire resulted in a decision on my part to reduce the significance and weight of this information. Yet, an important issue remains: the source of the participants' negative and uncooperative attitude. I would be inclined to think that there is general lack of interest on the part of staff, and even the institution, in taking part in research processes and other activities that may lead to change and innovation. This view is corroborated by the fact that only one or two language practitioners at UEM have actually published research papers in the past decade. One may also be led to conclude, although without detailed substantiated evidence, that this might be due to problems related to a long standing silent battle over claims for better remuneration and recognition of the work carried out by lecturers, since many of them tend to concentrate on the much more profitable activity of teaching at other (private) institutions to supplement their meagre UEM salary. One might conclude that this is the cause of a serious attitude problem that impacts on the quality and value of certain programs delivered to students, and needs to be tackled. There is enough evidence, augmented by this study, to support my statement regarding the existence of a problem with the ways in which curricula were and are

being “reformed” – or not. However, even knowing that there is a problem needing to be resolved, lecturers, who are important stakeholders in any reform process, choose to behave in a ‘non-academic’ manner. This inertia and lack of collaboration, and related issues, deserve a separate study in its own right: an inquiry into the motivations and perceived purposes, the sense of belonging (or lack of it) in an academic institution and how its reforms and developments are perceived or received, and the need for institutional agents to understand the aim of doing research, etc. In this context, the central idea posited in this study, the value of a Needs Analysis to any process of reform or innovation, remains an important and valid option, whether or not all stakeholders embrace it.

The level of inertia amongst academics described above constitutes, a 'critical incident', ‘ an event which has significance because it helps us to see things in a new way and thus develop our understanding’ (Kerfoot & Winberg, 1997:13) and calls for a structured analysis, not only of ESP-EAP courses, but also of the entire system at UEM. In this context, of particular relevance is the idea posited by Kerfoot and Winberg (1997) that

...improvement of teaching may be achieved through reflection [because] reflection is more than thinking and focuses on the day-to-day classroom teaching and [practices and attitudes] of the individual teacher as well as the institutional structures in which teacher and students work is of insurmountable importance. (Kerfoot and Winberg, 1997:17).

However this kind of reflective process can only take place within an academic and teaching context if the practitioner willingly plays his/her constructive structured role, and/or if the institution supports and encourages it.

The findings and discussion presented above, and part of the concluding remarks, were used to complement and inform the results and discussions in subsequent chapters. For instance, the skills and strategies identified in the textbooks will be matched and/or correlated with those which the learner participants in the present study, claim to use, and their degree of awareness of these (chapter 6), and the use of such skills and strategies to resolve reading problems as revealed in the cognition and metacognition questionnaires in Chapters 6 and 7. The present findings were also used to complement and inform the results from the *think alouds* (chapter 7) and thus make it possible to draw appropriate conclusions to form an adequate picture of the type of learner/reader at UEM and similar tertiary institutions, his/her problems with text

comprehension, and the steps to be taken towards suggesting and, eventually improving or developing a “new” and more appropriate EAP-ESP template.

The present chapter has discussed issues pertaining to Needs Analysis and course design. One important aspect related to the lack of cooperation from lecturers and, as such, important aspects on course design may have been left ‘miscomprehended’, and thus hamper the development of the language teaching in the section. Yet some of the responses helped build a picture, which allowed for a discussion of very important issues that call upon a formal Needs Analysis. In chapter 5 I will discuss additional aspects that link the way in which ESP-EAP is taught with the teaching of reading skills and reading comprehension.

CHAPTER 5 STUDY PHASE II: READING COMPREHENSION

5.1 Overview

This chapter describes and critiques two EAP language tests administered to student participants. It builds on the Needs Analysis in the previous chapter, which showed that a number of cognitive and metacognitive reading skills and strategies are purportedly taught in the EAP-ESP courses using outdated and inadequate textbooks for meeting the presumed purposes for teaching English for Specific or Academic Purposes at UEM. Building upon that, this chapter seeks to correlate the identified skills and strategies purportedly taught to the participants, and the degree of text comprehension they in fact exhibit. After a brief discussion of issues regarding the testing of reading comprehension, the results of the two different tests are compared and their validity and reliability assessed.

The findings from these test results provide a starting point for the next stage of the research, the administration of a cognitive and metacognitive questionnaire to student participants, which paved the way for the *think aloud tasks* documented and explored in subsequent chapters. The reading comprehension test results measured by the IELTS Reading Module²⁶ are further discussed in Chapters 6 and 7, where I investigate the specific skills and strategies FL learners and users of English in an EAP context resort to in order to construct meaning from text, and assess the degree of effective use of reading comprehension skills and strategies as well as the degree of awareness participants have of their own use of such reading comprehension skills and strategies (inferred from the cognitive and metacognitive questionnaire and the Think Alouds Method (TAM)). In the course of further discussions in Chapter 8 conclusions are drawn and summarised from all the stages of the present study to present a picture of the kinds of reading comprehension skills and strategies identified and used effectively by participants, and from these conclusions, suggest a template for an English reading academic course at UEM that takes into account the evidence collected in this study, discussed, and ultimately shown to be

²⁶ More than 1.4 million candidates sit the exam per annum and it is recognized by 6000 institutions spread over 135 countries worldwide. IELTS is presented in two formats, academic and general training. For more information see <http://www.ielts.org>.

appropriate for a template for an English language course in the FL multilingual context described in detail in Chapter 1.

In this chapter, I present a preliminary analysis of the kinds of strategies required by each test and compare these with students' actual performance on particular questions. In so doing I argue that the absence of appropriate training in reading strategies may have contributed to students' poor results in the reading comprehension test.

5.2 Introduction

Based on the theoretical framework described and discussed in Chapters 1 and 2, this chapter and the following two chapters aim to shed light on the '50% unexplained variance' as suggested by Bernhardt's (2005) compensatory model of second language reading, according to which she claims that the comprehension strategies, engagement, content and domain knowledge, interest, and motivation, which come into play in the reading process, are variables yet to be thoroughly comprehended. In this chapter I document my attempt to explore the underlying dimensions of the second language reading process through the use of using a reading comprehension test to support or complement the results from the questionnaires administered to students and to language teachers respectively. From this I attempted to gain insights into the **How** and the **What** – trait: students' use and awareness of using certain reading comprehension strategies. The purpose of this exploration and of this study, is set out in previous chapters, in terms of the, gauging the level of reading comprehension of the EFL participants, and the adequacy of their reading skills and strategies to construct meaning from academic texts, and, from the these findings, to develop a template for more appropriate and improved EAP and ESP courses at UEM.

Parts of my present and later discussions build upon interpretations and conclusions about second language, such as those made by Bernhardt (2005), who tags some of the problems in FL reading as a 'problem of syntax' or 'prior knowledge', or even a problem related to word-level and phonological issues. My discussions also involve studies on holistic examinations of second language reading that looked at how prior knowledge and related aspects were being used by

readers (Bernhardt, 2005). In the following sections of this chapter I approach reading comprehension in a slightly different manner to that of Bernhardt (2005).

In this process I make use of findings and results from 20 years of research which have shown with a high degree of clarity that the variables involved in the reading process are significantly more complicated than the set involved in the general L1 reading and L1 literacy research literature. Alderson (1984), and Alderson and Urquhart (1984), have consistently highlighted the need to examine the question of whether the field of second language reading should focus principally on the *reading* part of the proposition or on the *language* part of the proposition. This issue is also taken into account in the current study's exploration and the results could reinforce or confirm current trends in this research as discussed in works by Alderson (2000), Bernhardt (2000, 2005), Sheorey and Mokhtari (2001), Mokhtari and Reichard (2004), Pang (2008), Nezhad (2006), and Nassaji (2011), whose findings and views are explored in detail in the present study (see also chapters 6 and 7).

As was described in Chapter 2, Bernhardt (2005) also suggests that the issues do not simply concern language knowledge, or the development of transference of learned language and skills from L1 to L2 or FL, but the volume or quantity of such transference, and the conditions that allow such transfer to take place as well as the context. She suggests that the issue is not how much language, or the identification of the language threshold (if quantifiable), but that we should seek to clarify the relationship of language knowledge to literacy knowledge, and to individual/idiosyncratic knowledge. In the present chapter I take note of those variables in L2 [EFL] language knowledge (syntactic parsing, cognates, the linguistic relationship and or relation between L1 and L2) to help explain how the participants in their particular linguistic context construe meaning. In chapter 2 I posed certain questions: Can strategy compensate for weakness in syntax, and can these elements be compensated for by vocabulary knowledge? To what extent can L1 knowledge compensate for lack of L2 and FL knowledge? In this chapter I attempt to provide answers to these questions by drawing conclusions from the IELTS results that can be shared with other researchers in the reading strategy field. In this context reading comprehension, and the different nuances that exist between the way L1 reading and L2 and FL reading are perceived, may be further understood and may contribute to understanding the third dimension of Bernhardt's 2005 model and her revised 2010 model (in Bernhardt, 2011:38).

In view of these convoluted intricacies regarding the L2/FL reading process, and the quest for answers to the questions posited in the present study, as well as the ones so far reviewed, coupled with the data yielded in chapter 4, I attempt to do justice to what Bernhardt (2011) has reiterated about the complex interdependence of the various components of the L2 reading process:

... the component that seems to contribute the most to second-language readers' performances is *language knowledge*; the second largest research-based component is *first-language literacy*; the third component, about which far less is known is *other*, which must surely entail factors such as background knowledge and motivation. To understand the notion of compensation is to grasp the critical point that these factors are *not* independent of one another; in fact, they are even *more than dependent*, they are inextricably intertwined because they are used by readers simultaneously in a compensatory fashion. One factor does not operate without the other in second-language reading contexts. (Bernhardt, 2011:63)

Thus, bearing in mind that that, in Bernhardt's 2011 revised compensatory model of second language reading shows that one factor does not operate without the other in second language contexts, despite the need to study some of the variables in isolation, I shall refer back to my initial chapters and the results in chapter 4 to develop the idea of the *intertwinedness* of the components and processor reading and text comprehension at UEM, and, in so doing, substantiate both my hypothesis and my findings.

5.3 Reading Strategies of proficient native and non-native readers

In chapters 1 and 2 I discussed the concept of reading, provided some definitions and attempted tentatively to explain the complexity of reading in a foreign language (FL), particularly in a complex multilingual context such as that of UEM. I also discussed the association, or relationship, between reading in L1 and in L2, and reading in a FL. This discussion was extrapolated into the idea of reading in an EAP-ESP context in which learners at university, within a multilingual environment, read texts specific to their field of study, and are consequently expected to have greater levels of competence in academic discourse per se as well, as academic discourse in English, than younger learners (in primary and secondary schools) studying English for General Purposes, EGP. Due to the nature of the text types read at university or in similar tertiary education contexts, the learner and/or reader is expected to have

had a high level of formal instruction and sufficient capacity to apply his or her existing knowledge (almost certainly secondary level) to construe meaning from texts that are related to a particular field of study.

However, as was discussed in Chapter 4, in focusing on reading ability and strategies, particularly in a tertiary context, attention should be paid to the specific nature of texts because ‘texts which appear to belong to the same genre may not be comparable’ and possibly not part of the same field of study (Kjersti Fløttum, 2007), and because of the existence of different disciplines and genres. For example, scientific letters (texts), considered by discourse and genre theorists to be ‘lower’ order texts and medical texts the ‘higher’ order member in the science family (Hyland, 2004), should be viewed with care for ‘in traditional structuralist terms, items that occupy different structural positions in their systems cannot be comparable, and in functional terms texts with (different purposes belong to different genres’ (Swales, 2004; Hyland & Tse, 2004). In order to minimize the risk of confusing these genre categories, the differences in terms of ideology regarding where such genres should be positioned, should be handled with care and placed in context in terms of the notion of the discipline itself. This is despite (language) courses and institutions wanting students to have sufficient formal education and capacity to engage with and/or analyse materials/language that are field/discipline related. Dangers lurking for disciplinary discourse may vary. For example, the disciplinary discourse of physics includes the spoken and written linguistic modes, as well as mathematical and visual codes (graphs, diagrams, equations, etc.), the active (carrying out experiments in laboratories), and the instrumental (the type of information that each research tool gives) (Airey & Lunger, 2006, in Kjersti Fløttum, 2007). Therefore, as stated above, a reader in a tertiary context needs to pay attention to the nature of each text and not compare the two or more texts, or lump them together, simply because they seem to belong to the same genre. Such texts may be part of the same genre but from a different field of study. For this reason I took particular care in the selection of texts for the pilot and IELTS reading comprehension tests. The task was slightly easier for the pilot test despite shortcomings regarding the test design and validity (see section 5.7.1). The selection of the IELTS reading passages was more complex given the ready-made nature of this type of test, but the fact that the participants were studying in a specific academic field made the task easier: the texts were specific to language courses (translation and interpretation) and on a generic topic yet specific to the field. The issues presented above are

explored in, and inform, the analysis of the results from the pilot test and its features when compared to the IELTS reading test.

The introductory chapter described in detail the high demand for English as L2 and/or FL in EAP-ESP in Higher Education and the reasons for the need to provide English language specialist courses to students and to non-native English speaking academics for them to be able to comprehend and engage with research articles/texts (Garcia 2000; Freeman & Freeman, 2003; Koda, 2005; Balfour, 2002; Pityana, 2005; Hyland, 2006;). Thus a high level of academic literacy in the foreign language is an indispensable tool for students and academics in a multilingual foreign language context²⁷.

The dearth of research on the need for academic English proficiency in a multilingual context, and on the types of metacognitive reading strategies of proficient native and non-native readers (Mokhtari & Reichard, 2004) has been mentioned, as has the scarcity of research specifically investigating the metacognitive awareness and use of reading strategies in English as a FL college or university students proficient in academic language (see 5.7), i.e. those students studying in different social, cultural and linguistic contexts (Asia, South Asia, Middle East) for different types of university degrees. Research in the few studies done is on cognate languages and languages which are also a legacy of the colonial period. This evident shortage of research involving proficient tertiary students has been further corroborated by statements that most of the research concerning reading strategies of second and/or foreign language readers has dealt with students at lower levels of academic language proficiency, or those enrolled in secondary and pre-university schools (Sheorey & Mohktary, 2001; Knight et al., 1985; Block, 1986, 1992; Carrell et al., 1989; Pritchard, 1990; Anderson, 1991; Zhicheng, 1992; Auerbach & Paxton, 1997; Zwiers, 2008; Brown & Rodgers, 2009).

As mentioned in the previous section, my search for research specifically investigating L1 Portuguese speakers at university and/or in post-secondary education reading using reading strategies in English as a foreign language yielded a very short list of studies focusing on cognitive and metacognitive reading strategies and or skills. A study conducted in Brazil by Vidal (2002) involving L1 Portuguese speakers at university and/or post -secondary education

²⁷ See footnote 3.

level reading in English. It should be noted that Brazil has a large community of people whose first language is not Portuguese, making this country a multilingual one. Vidal's (2002) findings showed that metacognitive strategies were used by participants but the results for the relationship between reported frequency of strategy use and ratings of task performance on writing tasks are somewhat blurred and inconclusive. Vidal's participants (university students) reported high frequency use of metacognitive strategies and resorted to compensatory and cognitive strategies to construe meaning and complete writing tasks. These findings are explored in more detail in Chapters 6 and 7.

The scarcity of studies involving Portuguese speakers led me to studies conducted elsewhere: in Asian and European socio-cultural and educational context some of the which provided a fertile ground for language research involving college/university students in countries such as Iran, Singapore, Thailand, Japan, and China on English reading comprehension of speakers of Urdu, Farsi, Thai, Japanese and Chinese Mandarin, despite the non-cognate nature of these languages in comparison with English. Studies carried out in these regions include those by Song (1998), Zhang (2001), Jiang and Kuehn (2001), Yang (2002), Yang and Zhang (2002), Yang (2006), Jixiang (2008) Li and Errey (2008), Yoshida (2008), and Karbalaee (2013) are mostly on reading comprehension strategies, cognitive and metacognitive strategies, metacognitive awareness and knowledge in EFL.

Of particular interest for my own study is a paper by Yang and Zhang (2002) in which the relationship and correlation between metacognition and EFL reading comprehension on the part of Chinese college students ($N = 125$) in the third year of an undergraduate course was clearly shown. The study looked at variables like metacognition, EFL reading comprehension, and EFL proficiency, and results showed that readers' general EFL proficiency correlated significantly with their reading comprehension ability at $p < .01$, and that their metacognitive knowledge correlated significantly with their reading comprehension ability at $p < .01$. Further, fluent readers displayed more self-monitoring ability than did poor readers during the reading processes, i.e. fluent readers monitored their own reading processes all the time to compensate for previously non-decoded lexical items. Poor readers seemed to be less aware of lexical inconsistencies in the text than fluent readers and the latter responded more positively and strategically to such inconsistencies in the text. Yang and Zhang (2002) concluded that the

participants' English language proficiency and their metacognitive awareness affected their reading comprehension ability and that their metacognition had an impact on both EFL proficiency and EFL reading performance. Given the context and sample, Chinese university student EFL readers, the study concluded that those fluent L2-EFL readers, in order to attain that level of fluency, not only need a sound basis in the foreign language (finding resonance in Cummins' 1979 threshold hypothesis, also discussed by Alderson, 1984) but also a high degree of metacognitive awareness in order to construe meaning from text more efficiently and effectively. The Yang and Zhang 2002 study, and its conclusions, are explored in detail in chapters 6 and 7.

A study by Karbalaee (2013) was designed to investigate whether any statistically significant relationship existed between Iranian EFL learners' reading strategy use and their reading achievement measured by their reading comprehension test (RCT) scores, and to examine whether the participants' overall reading strategy use and their use of reading strategy subscales (Global, Support, and Problem Solving)²⁸, were a predictor of their RCT scores. They used a pool of 114 Iranian EFL learners (60 females-52.6% and 54 males – 47.4%) studying at the Iran Language Institute in Iran. They were all intermediate level students at the time of the study and formed a homogeneous group of high school students, university students or graduates, with BA/BS/MA/MS/MD degrees in various disciplines.

In order for researchers to be able to use the Survey of Reading Strategy- SORS (Mokhtari & Sheorey, 2002) the SORS was translated into Farsi then revised and evaluated by scholars of the field to eliminate any possible misunderstanding in the English version of SORS. The SORS was administered to the participants in their local language, Farsi. In addition an RCT, the reading part of a version of the Preliminary English Test (PET), which is considered appropriate for learners starting intermediate level in EFL, was used to collect the data. Karbalaee (2013) found a statistically significant and positive relationship between participants' overall use of reading strategies and reading achievement as well as between their Global and Problem Solving (GPS)

²⁸ Karbalaee Kamram (2013:32) borrows the term 'subscale' from different reading taxonomies. These terms are also referred to as academic support strategies subscale (referred to as 'skills' in Weir's and Mumby's taxonomies), 'global strategies subscale' and 'problem solving subscale' in works by Sheorey and Baboczky (2008) and Zhang and Wu (2009), for example.

reading strategy use and their RCT scores; no statistically significant relationship was found between participants' support reading strategy use and their RCT scores.

The results of this study also revealed overall reading strategy use to be a predictor of RCT scores, although it was of low predictive power, and among the reading strategy subscales, only Global Reading Strategy use could be a predictor of RCT scores. In addition, the results had pedagogical implications for learners, teachers and materials developers in the field of EFL teaching/learning. Essentially, reading strategy use can help readers deal with problems arising while reading a passage in a foreign language, and help improve an individual's reading comprehension level. In addition a higher use of Global reading strategies seems to enhance reading comprehension of EFL learners, while English language teachers within the Iranian and other contexts appear to a large extent to inhibit their students from using their L1 when learning English (items 29 and 30 in SORS), for instance by not allowing them to translate the Source Text to L1. Research has shown that thinking (aloud) in both English and L1 when reading, and the need for a FL reader to have clear reading strategies to assess comprehension, requires clear teacher as well as programmatic guidance. These pedagogical implications also call for materials that require the readers' consistent evaluation of their reading comprehension, which should be reflected in textbooks, exercises and other teaching aids, which in turn may result in an improvement of students' Problem Solving reading strategy use and thus better reading scores. Thus, as proposed by Karbalaee (2013), this scenario implies:

... that EFL language teachers should provide their students with guess provoking setting, encouraging participation in risk-taking activities, helping learners to find and use contextual clues in the text to explore the meaning of unknown words, exposing learners to reading strategies, activating learners' relevant schemata in reading warm-up activities, minimizing the use of dictionaries, and giving reasonable feedbacks to incorrect guesses, to prepare students for a better utilization of reading strategies in general, and Global, or Problem Solving reading strategies in particular. (Karbalaee, 2013:36),

Karbalaee (2013) elaborates further on this pedagogy. For the language learning setting, '[...] when reading strategy training hints or motives are inserted in appropriate parts of a course book, teachers are provided with a powerful device to optimize language learning activities, and learners can benefit from a more harmonious EFL context, [and as such] learners [are] encouraged to become more conscious about their own strategy use, and utilize reading strategies [meant as] powerful learning tools (Karbalaee, 2013:36)'.

Thus such studies show the fundamental role of materials developers in terms of language learning setting and learning resources for these EFL students; essentially, their insertion of reading strategy teaching suggestions and/or cues in appropriate sections in textbooks, if explored in language learning activities to their maximum, can benefit EFL learners.

5.4 Research questions

In terms of my particular multilingual context, and the scarcity of research involving Portuguese L1/L2 or as a Foreign or even an official language, I have describe my review of studies in socio-cultural and educational contexts of the Asian subcontinent and the opportunity these provide to include any and all possible answers/variables in the data of in the present study. Also mentioned in previous chapters is my intention not to follow one theoretical concept or line but instead to devote time to careful consideration of the research questions and, given the context, the type of respondents and the evident gap in the field of reading comprehension in a particular multilingual Higher Education context - the '50% unexplained variance' (Bernhardt, 2005, 2011) in my attempt to produce new and valuable findings in this field.

These and the factors and issues discussed in previous chapters (1, 2 and 4) provided a basis for devising my research questions as the springboard from which to embark on a study that would not be bound to the limits of any one theory, but instead adopt and incorporate those theories and models mentioned above, in a **conceive-search-collect-analyse-(re)formulate-suggest** project. Some comparisons with findings from other studies, without necessarily using a model/theory, and conclusions, are also advanced in order to provide a sound basis for the study. For the purpose of answering the research questions (1.4.3) I first discuss various relevant concepts of reading strategies/skills including Assessment.

5.5 Defining Assessment

A survey of the available literature has shown that there are several descriptions of assessment and how to test and/or measure reading comprehension. There are also principles and theories guiding the understanding of the foundations and concepts behind assessment in the field of

language learning and teaching. A brief discussion of some of these follows in order to provide a framework for the research process.

Because assessment has an important impact on the educational system (Marby, 1999), a careful analysis of which type, approach or technique to use when testing is needed to avoid biased interpretations and ensure valid and reliable evaluation processes. A clear understanding of the assessment concept is crucial as well as deciding what to assess. In the present study I aim to assess the reading comprehension of university students who, due to the reasons outlined above, are under pressure to use English as a foreign language within an ESP-EAP multilingual setting. For these students English is not the second language, and could be a third or even a fourth ‘additional’ language. Thus one could argue that students’ general language competence, fluency and accuracy plays a role in how these students in this particular multilingual context construe meaning, particularly of academic texts. By assessing students’ levels of reading comprehension, and using these as data to inform a possible improvement and development of the existing EAP-ESP programmes and/or curricula, I hope to offer suggestions for a basis from which to design or redesign a teaching template more appropriate to the aims and context of these courses.

Assessment has been defined both as the process of ‘judging individual learners’ and as a ‘tool to measure a change’ in the learners’ performance or learning processes, for instance assessing the change between what students have learned and what they can produce (results, outcomes) by assigning a number or weight to that change (a mark, score) (Cotton, 1995). It should be noted that this definition places emphasis on the measuring of a quantifiable aspect. This classical quantitative, performative view of assessment has progressed to more recent qualitative concepts of assessment associated with reading competency, these being seen as methods ‘to gain insights into readers’ processes’ or ‘to diagnose problems that readers might be having in their reading’ (Alderson, 2000:332). Thus, in terms of more recent concepts and methods, assessment is no longer viewed as a ‘measuring’ or a judging tool for a measurable and quantifiable competency, but has come to be viewed as a non-quantifiable process, and include various aspects and/or variables (in reading). Reading researchers such as Huerta-Macias (2002), Kosher and Khatami (2004), and Alderson (2000), view assessment in a more constructivist manner as a method to measure the constructed and reconstructed knowledge of an individual about something (non-quantifiable), for example, a subject taught at school, where the learner brings in his/her own (re)

construction of his/her world, prior-knowledge and schemata. In the latter approach, testing reading comprehension is not simply a matter of testing how much the learner/student knows about the subject, but trying to uncover the strategies applied by the learner/student when taking the reading comprehension test, as well as obtaining a description of his/her level of achievement or potential (Cotton, 1995:89). This attainment of his/her description of the reading process is sometimes hindered due to the lack of support and instruction learners/students get from their teachers/tutors on the strategies they need in order to take a test (assessment); such instructional aspects were in the past, and continue to be, not part of most curricula (Alderson, 1996), and, as Jalilifar et al. (2008:216) argue, this lack of strategy instruction is in contrast to today's trend that views assessment as a logical continuation of the process of teaching (Huerta-Maci'as, 2002; Koosha & Khalaji, 2004, Nuttall, 1998, in Jalilifar et al., 2008:216).

5.6 Reading Comprehension Assessment Types: an overview

In this section I discuss a number of reading comprehension assessments used in education facilities. More specifically, I briefly discuss the difference between traditional (summative) and modern (formative) assessment, highlighting their respective advantages and disadvantages, and what a language teacher should expect from assessment when selecting a reading comprehension test.

There are different types of assessments that can be used during a programme aiming at improving, testing or evaluating learning as well as predicting, selecting or rewarding learners (Cotton, 1995). Formative assessment aims to assess the progress a learner is making in the process of learning and to provide feedback to the learner. Summative assessment aims at establishing what the learner has achieved at the beginning or end of a unit, programme or course so that a final mark or grade can be awarded. Ipsative assessment, a special form of summative assessment, and aims at assessing the progress an individual learner has made as a result of the learning experience he/she has undergone (Cotton, 1995:24).

For reading comprehension there is a wide range of tests (extensively discussed in Alderson, 2000) designated traditional methods, competence-based tests, learner-based, standard and

standardised tests (online-based and others) and a number of ‘alternative’ tests. Traditional methods of testing reading comprehension have come to be seen as problematic by educationists and language practitioners. Testing methods such as the True or False (T/F) and Multiple Choice (MC), for example, are ‘often not passage dependent’ (Bernhardt, 1983:27). Bernhardt (1983) alludes to Pyrczak (1975) who found no significant differences between the scores of students who had read a passage and selected answers to comprehension questions, and the scores of those students who simply selected randomly a, b, c, and d without reading the text. The following factors found to influence comprehension may justify such findings as those of Pyrczak (1975): 1) prior knowledge; 2) the “interrelatedness” of questions and 3) the general construction of MC tests. Problems similar to those mentioned above exist in FL reading testing of comprehension, essentially those aspects related to prior knowledge, passage dependence and interrelatedness, the latter being more pronounced in FL due to the limited vocabulary in the FL that FL learners possess (Bernhardt, 1983). Also scores from MC tests do not necessarily reflect the degree of comprehension of a learner; hence the reliability and validity of these tests have been questioned (Shohamy, 1984; Alsanian, 1985; Peretz & Shoam, 1990; Alderson, 1996; 2000). Tests consisting of selected response items, especially M-C items, are commonly described as ‘objective’ tests. This is misleading because the selection and ordering of items, and the decisions made by the learner/reader and designer of the test (sometimes) as to which answers are correct (or more correct than the other options), are subjective rather than objective. Likewise, machine scoring does not reduce subjectivity; it merely limits the numbers of persons who will provide subjective decisions as to which answers will be considered correct (Sutherland, 1996, in Marby, 1999:21-22).

Other traditional methods such as the Cloze Tests (CTs), used to assess global language proficiency, based on the ability of subjects to fill in words deleted from a text, are frequently used to test reading comprehension because this type of test is ‘easy to prepare, quick to score, and totally objective’ as Bernhardt (1983) asserts. Despite the apparent user-friendly nature of CTs, they are not without flaws. Their focus on students’ attention to precise grammatical relationships make them unpopular with learners (more so in the case of FL learners), and they often see cloze tests as “difficult and frustrating” (Bernhardt, 1983:28).

To ease the “difficult and frustrating” nature of some of the traditional comprehension testing

methods, Bernhardt proposed the use of “Immediate Recall Protocols (IRPs)”, which are designed to test students’ abilities to understand written FL texts without the help of outside material (1983:8). In this type of test, students are asked to read a passage silently as many times as they wish, and, when they are confident enough, surrender the text and are then asked to write in English everything they remember from the text. Whether the text to be written by students has to be in a logical sequence or not was spelled out in Bernhardt (1983), but despite that, it is clear that the test ‘reflects on process rather on product’ Bernhardt, 1983:31) (see also Bernhardt, 1983b, 1985, 1986b, 1990, 1991, 2000). Endorsements of the IRP test include i) it does not test grammar, but shows where grammar is lacking, or where it interferes with communication between speaker and text; ii) it does not influence students’ understanding of text in the ways that traditional methods do; iii) it stresses the importance of understanding the material (students may not simply guess the answers as they do in MC tests); iv) it encourages students to monitor themselves and bring their own experiences to the reading process, and v) it makes for easy administration (no bank of questions and exercises needed), and thus, from this point of view, could be seen to have more advantages than do traditional methods. Bernhardt mentions Recall Protocols where learners ‘write down *in the language in which they feel most comfortable* what they recall from the text. Subsequently, teachers are urged to examine the readers’ recalls and to develop lesson plans based on cultural, conceptual, and grammatical features that interfered with comprehension’ (2011:65).

As has been described, while the procedure itself takes an individualized approach to readers’ comprehension and does not approach instruction in a generic fashion, this, the Recall Protocol Procedure,

...acknowledges that readers come to texts with different knowledge sources and that instruction either needs to account for these sources and somehow *neutralize* them or *use* them in some way. Immediate recall requires that teachers probe individual conceptualizations and then construct lessons on the bases of the reconstructions. This procedure stands in sharp contrast to traditional approaches that anticipate learner difficulties rather than examining them as they are generated. It takes into account the variables of background knowledge and grammar but, like other approaches, does not directly address a crucial variable, text topic, as a key part of genre. (Bernhardt, 2011:65).

Other alternative and innovative test types described by Marby (1999) became more widely accepted and used from the 1990s, at a time when teachers were experimenting with a variety of assessment techniques seeking more effective means of understanding and evaluating student learning. The alternative assessment techniques, so designated when grouped, are the ‘authentic assessment’ methods, also known as ‘direct assessment’ and ‘performance assessment’, which have in common requirements for ‘constructed-response’ (portfolios, profiles, performance tasks, projects, demonstrations or exhibitions of mastery, discourse assessment, and simulation) rather than *selective-response* test questions or items (for a detailed analysis see Marby, 1999:5-22). In the ‘authentic assessment’, hence ‘direct assessment’ process the learner/student provides more *direct* evidence of meaningful application of knowledge and skills, or ‘performance assessment’ (or performance-based) where students are asked to *perform* meaningful tasks, which can be real-world tasks that demonstrate meaningful application of essential knowledge and skills (Mueller, 2014). In contrast to traditional assessment methods, authentic assessment involves the ‘engaging [of] ... problems or questions of importance, in which students must use knowledge to fashion performances effectively and creatively’, where ‘tasks are either replicas of, or analogous to, the kinds of problems faced by adult citizens and consumers or professionals in the field’ (Wiggins, 1993: 229), and these ‘call upon the examinee (the reader) to demonstrate specific skills and competencies’ to resolve the task (Stiggins, 1987, in Mueller, 2014; Stiggins, 2008).

According to this approach, whatever assessment type or process a language teacher decides to use, there is a need to exercise care to not simply test students’ ability to understand and recall ideas and information directly stated in the given text. The provision of ‘*guess provoking settings*’ (Karbalaei, 2012:36) is intended to encourage learners to take risks, use contextual clues and reading strategies, and explore all relevant devices in the text as well as those exogenous to it, such as the use of relevant schemata; all need to be taken into account in an assessment process. Failure to take all of these factors into account in an assessment process may hinder reading comprehension assessments from going beyond the level of assessing the ability to understand and recall ideas and information **in the text that is being used to assess reading comprehension**. One such traditional, surface meaning comprehension test is the reading module of the IELTS exam, to be discussed later in this chapter. Thus, the alternative, more in-depth assessment methods require the teacher or tester to be aware of three main ‘levels or

strands of comprehension' listed in Mohamad (1999), Smith (1999), Berry (2005), and Sugiantoro (2012): *literal*, *interpretive* and *critical* comprehension. Table 9 summarises the three types or levels of comprehension (level or strand), what they entail and what criteria should inform the type of questions set and/or kinds of reading/construction of meaning to be taken into account when testing.

Table 9. Levels or strands of comprehension: a summary.

Levels or strands of comprehension		
Type of comprehension	What does it entail?	What to ask/test?
<i>Literal</i>	It involves surface meanings;	Find information and ideas that are explicitly stated in the text. In addition, it is also suitable for vocabulary testing
<i>Interpretive or referential</i>	<p>These involve thinking processes such as drawing conclusions, making generalizations and predicting outcomes:</p> <p>i) Subjects go beyond what is said; ii) Students read for deeper meanings;</p> <p>iii) Subjects must be able to read critically and analyse carefully what they have read;</p> <p>iv) Subjects need to be able to see relationships among ideas (e.g. how ideas go together; and also see the implied meanings of these ideas)</p>	<p>Re-arrange the ideas or topics discussed in the text; explain the author's purpose of writing the text; summarize the main idea when this is not explicitly stated in the text; select conclusions that can be deduced from the text.</p>
<i>critical</i>	-Ideas and information are/is evaluated critically	The ability to differentiate between facts and opinions; the ability to recognize persuasive statements; the ability to judge the accuracy of the information given in the text.

(Adapted from Mohamad (1999) and earlier work by Robert Karlin (1971))

I aimed to take into account these three strands of comprehension in my choice of the reading assessment technique. If several levels of comprehension are to be tested and assessed, according to the alternative assessment models such as those of Marby (1999) and Karbalee (2012) described above, and multiple factors taken into account, the assessment process cannot be based on the strands of comprehension alone. Mastery at one level is not a prerequisite to, or guarantee of, comprehension at another level (Karlin, 1971; Mohamad, 1999). Furthermore, the reading skills for each strand cut across ages and school level, primary school to tertiary education level. Mohamad (1999) cautions practitioners in EFL/ESL teaching to bear in mind that the three levels are not distinct, and that in the division of comprehension into literal, referential and critical strands can only be used as a guide for preparing reading assessments. Taking into account claims made by Karlin (1971), Potts (1976), and Mohamad (1999) that language teachers, many of whom are not clear about their learners' reading levels, tend to present their students mainly with literal comprehension questions, I saw the need to seek out a test that which goes beyond testing the basic skills of reading and recalling information.

I examined and assessed a number of tests and verified their relevance and validity by looking at the reading sections and/or modules of these tests and matching the ways in which these were structured to the levels or strands of comprehension described above. Tests such as Test of English as Foreign Language - TOEFL, Cambridge Advanced Exam - CAE, International English Language Testing System - IELTS and First Certificate Exam- FCE were considered. With the exception of the IELTS, none of the tests reviewed were suitable in terms of the aims of the present study. After careful analysis and evaluation I considered the reading module of the IELTS exam on its own, without the speaking, listening and writing modules, to be an adequate tool to assess the reading comprehension of the participants in my study. The analysis and evaluation were also informed by the requirement that the selected reading test module should assess the ability of the candidate to perform a number of tasks, namely, identifying structure (referential), content (literal and interpretive), sequence of events and procedures (interpretative and referential), finding main ideas which the writer has attempted to make salient (referential and critical), identifying the underlying theme (critical), identifying ideas in the text, and relationships between them, e.g. probability, solution, cause, effect (referential), identifying,

distinguishing and comparing facts, evidence, opinions, implications, definitions and hypotheses (critical), evaluating and challenging evidence (critical), formulating an hypothesis from evidence, concept and evidence (interpretive and critical), reaching a conclusion by relating supporting evidence to the main idea (literal, referential and critical), and drawing logical inferences (critical).

The tasks set for the comprehension of the selected test needed to relate to the reading skills and strategies readers need to have and use adequately to be considered fluent or competent readers (see chapters 2 and 4), and to match with most of the purported aims related to the enhancement of reading ability and/or competence in the courses offered at UEM. Such skills and strategies, despite the inadequacy and inappropriacy of the textbooks used in these courses, I identified as being taught to UEM students (see chapter 4, section 4.6). I had also to bear in mind in the selection and analysis of the test, as well as the findings from the participants' answers, my quest to find out whether the results could provide information as to whether the process of meaning construction by the participants would be hindered by language or reading issues (Alderson, 2000:84,). In the next section I discuss those aspects linked to testing reading which support the rationale for using a reading test such as the IELTS reading exam module.

5.7 Testing reading comprehension and meaning construction

The testing of reading comprehension in my study is directly linked to the testing of comprehension of academic language and how learners or language users construe meaning, the tools they use, and how effectively these tools are used to attain text comprehension. Academic language should be understood in the present context in the same sense as *academic language proficiency*, defined as the ability to construct meaning from oral and written text, relate complex ideas and information, recognize features of different genres, and use various linguistic strategies to communicate (Dutro & Moran, 2002). The specific abilities required for a reader to construct meaning from [...] written text, the use of linguistic strategies (cognitive and metacognitive skills and strategies) and other tools to not only communicate but to extract knowledge from text in order to succeed in the learning process at university is what interests me in this study. This interest centres on academic language (academic English) which can be seen from two

perspectives: ‘scientific discourse’ alone, as is taught and used in English for Academic Purposes (EAP), and a ‘general concept of academic discourse’ (Gamaroff, 2010), which includes EAP and literary discourse. The latter is not of direct interest to the present study and thus I will concentrate on the former. According to Gamaroff (2010) ‘scientific’ in an academic context has two meanings: i) the general sense of “academic” and ii) the particular sense of science, where he refers to the general meaning of the term in contradistinction to the humanities. According to this definition, academic language or discourse is specific and demands specific processes and tools to operate within it, which could be described in terms of an academic language ‘cognitive box’, a set a thinking skills and language abilities used to decode and encode complex concepts (Diaz-Rico & Weed, 2002). I identify these tools (see sections 7.7 on) and dissect their use and operationability to better understand and interpret how learners/students apply them to construe meaning in an academic context. By understanding students’ level of comprehension, one can lay a foundation for comparing and/or understanding why the application of such tools work and/or did or do not work in a specific context. To do so one has to test the learner, not control (by force of policy and political means) what is taught, or punish low-scoring individuals, or even compel schools or universities to comply with the mandates of policymakers, on the basis of assessment. As I stressed above, one should instead use the data from the reading comprehension test to inform a possible improvement and development of the language course, or programme and/or curricula in use at a school or university.

Testing reading competency can be done using several tools. The battery of traditional reading comprehension assessment techniques that still exists was described in detail in 5.4 and 5.5 above, together with the longstanding reliance of EFL/L2 reading comprehension assessment on classical quantitative, product-oriented measurement techniques such as multiple-choice and cloze tests clearly evident at UEM, despite criticism of such assessment tools. Also mentioned above is Bernhardt’s (1983) criticism of these traditionally employed assessment methods as being unable to capture the complex processes that take place between learner and text.

According to Heinz (2004) the literature critiquing these traditional assessment tools centres on the development of a constructivist model of comprehension that is dynamic and learner-based and that demands new and equally dynamic paradigms of assessment. This idea is shared by Alderson (2000) and Bernhardt (1983b, 1985, 1986a, 1986b, 1990, 1991, 2000). This research

and these innovative assessment models indicate a clear need to reduce or dispense with the long standing reliance on classical quantitative, product-oriented measurement techniques in both research and classroom assessment.

5.8 Testing Reading Comprehension: an overview

One of the main criteria for determining a learner's language competence in testing her or his level and quality of reading comprehension is determining what the language user is supposed to comprehend, or reveal an understanding as to whether these are the main ideas of simple, specialized or complex texts on concrete or abstract topics, or the generic aspects of similar types of texts. In determining this we (researchers, testers, teachers) should first answer the question, "What does it mean to understand a text?" This question cannot easily be answered, given all that reading comprehension means or entails, as I have tried to show in earlier chapters, and does not necessarily enable us to determine the reading competence of a learner. The next section will deal with testing of reading comprehension and the kinds of tests available, their validity, implications, advantages and disadvantages and a number of other issues that inevitably arise when measuring reading comprehension.

5.8.1. Pilot test: design and validity

In order to secure an *appropriate* (my emphasis) reading test for the present study I carried out a search for a comprehension test exam or module that would suit my objectives. Prior to the search I considered designing a test myself which, after analysis, was trialled in the Physics department of the UEM²⁹. The test included a section for the bio-data of participants, a reading passage and a question and answer section where the students had to answer a simplified multiple choice exercise involving circling the best choice out of three, and a gap filling section. The pilot test questions were designed in accordance with an interactive model of reading and aimed to test reader comprehension at all levels. However the design, mimicking the type of test

²⁹ See copy of test, results and key in annexes F and G.

carried out in classes that essentially tested at the literal and interpretive levels, or strands, of comprehension, without the critical strand, and with more emphasis on the literal strand failed to yield the envisaged results. This is shown below in the description of my attempt to infer from the questions and answers the reading strategies that might have been used by the participants. Unfortunately for me, and for the aims of the present study, the test failed to yield the expected results, the result being deemed inadequate for the study. The test, on trialling it, in fact resembled most of the reading comprehension tests designed to attain a score and to ‘penalize’ or reward the learner (with a fail or pass classification). This accords with the view of assessment as a process of judging individual learners, and its use as a tool to measure a change (*whether learners can score or not*)³⁰ (Cotton, 1995; Marby, 1999:5-22). It can be argued that this type of test, which includes selected response items (M-C, Cloze, and Gap Filling), can be misleading to learners taking the test; although such tests are commonly described as objective, in fact the selection and ordering of items and decisions in terms of which answers are correct is rather subjective (Sutherland, 1996, in Marby, 1999:21-22).

In the end the trial test did not provide a clear indication of whether the participants in the study had used reading skills and strategies or not in responding to the questions. Further, the reading comprehension test was based upon the type of reading comprehension exercises typical of the Nucleus Series, from which the reading passage was abstracted. The inadequacies of Nucleus Series books have already been analysed and thoroughly discussed in Chapter 4. Overall, the test was structured as a summative and/or Ipsative test (to test what the learner had achieved or not at the beginning or end of a unit or course, essentially his/her progress) and a final mark or grade awarded (pass or fail classification) (Cotton, 1995), an assessment model not consonant with the aim of the present study.

Although the content validity of this pilot test could be said to be adequate (specific register, text structure, syntactic form, genre, theme, question format, familiarity with topic, etc.), and with a face validity that can be seen as adequate for a summative and/or Ipsative test, in terms of the good to excellent results attained by most of the participants (the single lowest mark below 50% was a 6 = 40%; the highest was a 14 = 93% out of 15=100%), the test could not be classified as a Reading Comprehension Test – (RCT). The test was in fact to a large extent summative and/or

³⁰ My words and emphasis.

Ipsative in nature, essentially testing the strand of comprehension termed '*Literal*' (Mohamad, 1999), which seeks to elicit from students or examinees information and ideas that are explicitly stated in the text, and is also suitable for vocabulary/vocabulary knowledge testing, involving the discovery of surface meaning; it did not clearly reveal how comprehension was attained in terms of reading strategies/skills used by the participants. This test and the outcomes however provided me with issues on which to reflect in the discussion section of this chapter.

The pilot test was deemed in the end inappropriate for the study due firstly to its construct. The content validity (accurate reflection of the syllabus on which it was based) was not an issue nor was its construct validity. The test reflected accurately the principles of a valid theory of foreign language learning: it was designed in accordance with an interactive model of reading and aimed to test reader comprehension at the literal strand level of comprehension which involves the discovery of surface meaning and the search for explicitly stated information and ideas as well as vocabulary in the text (see Table 9 above). The test was devised along the lines of most tests I had been designing for most of my teaching career and based on the Nucleus type of structure (see chapter 4) and would administer to my students in order to test what they had in theory learned within a given period, i.e. based on a theme, a seminar or a number of classes discussing a topic. Influenced by the type of textbook used at UEM to provide EAP, the questions essentially asked students to find a word (lexicon, lexical or a compound lexical item) or simply circle a choice (a student can achieve the correct response by sheer luck without having read the text, as Bernhardt (1983), alluding to Pyrczak's (1975) study, pointed out) and find cognates in text that were changed to corresponding lexical items to fill in gaps. The ability to use vocabulary at a low level of reading would be sufficient. The second aspect is related to its face validity (valid for an ipsative test); the extent to which the test was subjectively viewed as covering the concept it purported to measure, test transparency or relevance (Holden, 2010) may have been adequate (the scores reflect that) but in the end was not adequate for the aims of the study. The test did not measure what it was supposed to measure: text comprehension and meaning construction.

Bearing in mind what Alderson (1995) proposed, validity relating to the uses made of test scores and the ways in which test scores are interpreted, and thus always relative to test purpose, I could argue that my pilot test did not turn out to be a successful tool in terms of my own aims.

Table 10. Lowest (6-8 out of 14) and highest results (12-14 out of 14) (Pilot Test)

Code	Gender & code	age group	years of English	Nat	score 15/15 = 100%
002	Male 2	25-35	5-6	Moz	12
003	Male 2	20-25	5-6	Moz	12
004	Male 2	25-35	5-6	Moz	8
005	Male 2	20-25	5-6	Moz	8
008	Male 2	20-25	5-6	Moz	12
009	Male 2	25-35	7-9	Moz	12
010	Female 1	20-25	7-9	Moz	12
011	Male 2	16-20	5-6	Moz	12
013	Male 2	25-35	5-6	Moz	8
015	Male 2	25-35	5-6	Rwanda	12
022	Male 2	25-35	10-15	Moz	6
023	Male 2	20-25	10-15	Moz	12
026	Male 2	25-35	7-9	Moz	12
027	Male 2	16-20	5-6	Moz	8
032	Male 2	16-20	7-9	Moz	8
033	Male 2	20-25	5-6	Moz	12
037	Male 2	20-25	5-6	Moz	8
038	Male 2	20-25	5-6	Moz	14
039	Male 2	20-25	7-9	Moz	8
044	Female 1	16-20	5-6	Moz	12
045	Male 2	20-25	5-6	Moz	12

It was not in fact possible to infer whether the participants had comprehended the text or had simply used background knowledge in physics (participants are undergraduate degree students in physics) and guessing (question 1).

In light of the shortcomings of the pilot test, namely those related to face validity based on Alderson's 1995 discussion of this aspect, there was a need to search for other reading tests that were readily available and that would suit the purposes and part of the present study as well as minimizing the disadvantages of self-designed tests.

This process involved looking at the various reading sections of a number of language tests and exams that could be adapted to a Reading Comprehension Test (RCT), in the form of a version of the Preliminary English Test (PET), or the Cambridge First Certificate Exam (FCE), both developed by the University of Cambridge ESOL Examinations, several Cloze Tests, the TOEFL, and the IELTS, another Cambridge exam. I then conducted a comparative analysis, looking at the advantages, validity, reactivity and other key aspects of the reading part/module, in terms of language content, field specialisation, size and length, duration of test administration, type of exercises, etc. Aspects related to universality and global acceptances of results were also taken into consideration in the analysis. Some of these reading comprehension tests are discussed in terms of validating my choice of the reading comprehension test.

5.8.2. Using the IELTS reading module

In an attempt to circumvent the criticism and shortcomings that come with using entirely traditional classical assessment methods, I decided to use an IELTS, reading assessment test that is universally accepted, while not devoid of criticism and/or shortcomings per se. I attempt to show its validity and support my choice by referring to Alderson's 2000 work on reading assessment, and by taking into account Valencia's (1990) advocating the need to look "more carefully at the authenticity of the assessment tasks and their alignment with current research, theory, and instructional practices" (Valencia, 1990: 60).

The reading construct³¹ on which the IELTS is based is designed to meet the requirements for entry in English-medium universities and non-native speakers of English are its target population. Based on analyses of target language use situations (Munby, 1978; Weir, 1983) and on texts reflecting broadly what academic readers are expected to do, IELTS aims at sampling the ability of the candidate to perform a number of tasks:

- i Identifying structure, content, sequence of events and procedures
- ii following instructions
- iii finding main ideas which the writer has attempted to make salient
- iv identifying the underlying theme
- v identifying ideas in the text, and relationships between them, e.g. probability, solution, cause, effect
- vi. identifying, distinguishing and comparing facts, evidence, opinions, implications, definitions and hypotheses
- vii evaluating and challenging evidence
- viii formulating an hypothesis from an underlying theme, concept and evidence
- ix reaching a conclusion by relating supporting evidence to the main idea, and
- x drawing logical inferences.

(IELTS specifications, December 1989, in Alderson, 2000:131)

The tasks listed above resemble the reading skills and strategies readers need to have and use adequately to be considered competent or fluent readers (see Chapters 2 and 3), and match with most of the aims related to the enhancement of reading ability and competence in the courses offered at UEM. As discussed in Chapters 1 and 3, one of the primary aims of offering English

³¹ There are different reading constructs involved in reading, such as skimming, scanning, recognizing text structure text, etc. (Alderson, 2000) and these need to be assessed to attest the reading comprehension as a product or process and will ultimately define the type of test to be designed and/or used. These constructs are 'not psychologically real entities in our heads', but rather abstractions defined for a specific assessment purpose.' (Alderson, 2000:118).

language courses at the university is to enhance the reading skills/strategies of the students for them to read authentic texts in English and for them to be able to construe meaning from such texts with the main aim of finding information in their specific field of study. Thus, students need to know ‘how to understand the main ideas and to find specific information (Witts 1997, in Alderson, 2000:131), and to be able to ‘survey the text; analyse the questions; go back to the text to find answers; check the answers’ (Witts 1997 in Alderson 2000:131), and all these need to be done swiftly and accurately for academic purposes. Thus, the reading construct behind the IELTS, its rationale and the aims to be tested are in consonance with the main aim of the current study. Furthermore, I saw the IELTS as affording me the possibility to test reading comprehension within a controlled environment: essentially timed testing, which resembles the testing system at the University and the *habitus* to which learners are accustomed.

5.9 Materials used: a comparative account

A battery of tests to assess reading comprehension is available in manuals, textbooks and online. On the other hand, while as a researcher/teacher I could myself have designed a test to suit the purpose of the present study, the attempt to do so resulted in failure and I eventually resorted to the International English Language Testing System – (IELTS) examination papers, specifically the reading sections. This helped in terms of not having to enter into a deep and intricate debate around questions related to validity and acceptability of a reading comprehension test, given that the IELTS is used and accepted worldwide by several institutions, private and public, for placement purposes in Higher Education. While this does not exempt the IELTS exam from criticism as such, it makes it a reasonably reliable and valid tool to assess reading comprehension for the purpose and the type of participants of the current study. Most Higher Education institutions in the world would not question the results of an IELTS exam³², and would in fact demand that a candidate, especially a FL learner, take an IELTS exam to be admitted into one of their degree courses. In addition I hoped that issues related to design *lacks*, i.e. content, level, language, type of questions, appropriateness, interrelatedness, etc. would have been minimized by the IELTS examination board that designs the test.

³² For more details on the nature and type of exam see <http://www.ielts.org>.

5.9.1. Features of the Pilot Test and the IELTS reading module

As mentioned above, while there is a battery of ready-made tests available, my initial intention was to design one for the current study. The pilot test was designed taking into account the type of context and the features described below. I also selected ready-made materials and adapted them to the learner type participating in this study. The reading section of the IELTS examination was used and the reading passages were varied: a generic text, two specialized and field related texts (life sciences and humanities) but with a very low level of specialization, i.e. the text content was not highly related to the subject matter or field of study of participants. As Alderson and Urquhart (1983, 1985a, 1985b), Peretz and Shoham (1990), Alderson (1996, 2000) have suggested, there are pros and cons concerning the use of content related texts as a means to test reading comprehension because background knowledge in the content area of a reading passage can heighten learners' performance to their highest level, but such types of texts, i.e. too specialized, may be assessing subject matter knowledge rather than reading text comprehension (proficiency or the ability to construe meaning), as I discovered was the case in my pilot test. There is a high chance that highly specialized and content related texts may discriminate against learners who are less knowledgeable or have a low level of background knowledge in their field of study. Given all these factors, when selecting the IELTS reading modules to use in the reading comprehension assessment, preference was given to reading passages that were field specialized but not fully packed and/ or densely and heavily specialised.

A self-designed pilot test was used which included a 350 word text (more or less) with 7 paragraphs was used for the pilot test. The text is specialized and content related and with highly specific register and is genre specific (physics). The text, originally designed in the 60s, was sourced out from the Nucleus series in use at the UEM. These series are marked with all the features criticised and discussed in Chapter 4, and are highlighted in the course of the discussion section of the present chapter, i.e. their 'restrictedness to word and sentence level analysis (West, 1998), their descriptive yet non-explanatory nature (Robinson, 1991), and designed under the banner of register analysis and undifferentiated pattern, and consisting of long non-authentic specialist reading passages followed by exercises (Dudley-Evans C& St. John, 1998). The pilot test resembled without deviation this type of textbook reading exercise. The exercises comprised

of a Multiple Choice (M-C) section, a vocabulary section followed by a gap filling section with a total of 15 questions. The gap filling section was a mere adaptation (simplified and with synonymous/antonymous lexical items) of the fifth paragraph. The answers to the exercise could be sourced without necessarily comprehending the content of the text, i.e. essentially testing the *literal* (strand of) comprehension (Mohamad, 1999; Smith, B., 1999; Berry, 2005; Sugiantoro, 2012).

In contrast to the self-designed pilot test, the IELTS reading module is a ready-made reading comprehension test with specific features. Alderson (2000) lists what is essentially the focus of the IELTS reading module. Variables such as the identification of text structure, content, sequencing, ideas and relationships as well as finding the salient or main ideas, looking at probability, solution, cause, effect, and distinguishing and comparing facts, evidence, opinions, implications, definitions and hypotheses, evaluating challenging evidence and drawing logical inferences and conclusions are just a few of the items on the long list. What is clear is the connection between these abilities tested by IELTS tests with what is covered in the tests by the combination of the three strands of comprehension, *literal*, *interpretive or referential*, and *critical* (Mohamad, 1999; Smith., 1999; Berry, 2005; Sugiantoro, 2012), with emphasis on the latter two.

Despite a simple correlation between the two tests at $r=.95$, and a similar distribution of subjects in both tests, only the reading module of the IELTS were used in the study (see Chapters 1 and 3) to test reading comprehension of the participants. Further preference was given to IELTS because of its length and a higher number of questions than the Pilot Test, thus giving participants (learners) a greater chance of success and a wider ground to test reading comprehension. The results of the Pilot Test were, however, used only as informative data.

5.10 Methodology and procedures

First, prospection visits to different faculties and classes were made to try and evaluate the conditions for carrying out the study. Second, informal conversations were held with the teachers of English in the relevant faculties and an agreement obtained from them to use some of their teaching time to i) explain to possible volunteers the purpose of the test, ii) explain the

procedures designed in performing the study, and iii) ask who could participate voluntarily in the research. Third, the respective teachers and I (also teaching the subjects *Theory of Translation and Interpretation* and *Methodology of Translation and Interpretation* to one of the groups) agreed to credit points to the volunteers (as compensation for the time students would spend in the research). In total 74 participants, 46 in the pilot group and 28 in the IELTS group, agreed to cooperate and take part in the study. The participants formed a mixed group of students in the second and third years of the Physics and Translation and Interpretation degree courses, in the Faculties of Science and Arts and Social Sciences.

Prior to trialling both tests, the participants had a session (on a different day to that of the test proper) where the researcher i) explained the purpose of the research, ii) obtained a letter of consent from each of the participants, iii) provided a session so that participants could familiarize themselves with the type of test, ask questions, clear doubts, and iv) set the dates for the test and the follow-up stages. I also explained to the participants the *no obligation-binding clause* with the programme: they could leave at any given time, whenever they felt it appropriate to do so without any risk to their academic careers. Compensation (not monetary) for time loss was also discussed.

Due to time constraints and the tight agenda of the participants (a degree course with six or more subjects per semester), they had only one session to familiarize themselves with the test procedures. The pilot test was administered once to the participants and during a period of two lessons (each lesson lasts approximately 55 minutes). Two months later the IELTS was administered to the participants who had previously agreed to the schedule and the time set for the duration of the IELTS test - sixty minutes (60) as directed in the IELTS reading module papers.

The reading passage to test reading comprehension has three reading texts of between 300 to 350 words and forty (40) questions to be completed. Care was taken in the selection of the reading comprehension passages to cater for content validity: the content of the texts and of the test need to be bound to the content of what participants had learned or were currently learning (Alderson, 1996) as well as 'genre type' (Brown, 2004), so a number of passages containing content not far from what the participants already had knowledge of, were selected. The criteria for selection of these passages included their suitability in terms of lexical items, organization and length, their

resemblance to the type of texts that would be used in English classes, and their appropriacy for university students in ESP-EAP classes. Although the average length of the passages, 300 to 350 words, was and is decided by the examination board of the IELTS exams, this did not turn out to be an impeding factor for the purpose of the present study. I did not perform any readability tests either (e.g. the ESL by Carrell, 1987; the FOG index by Alderson and Urquhart, 1984), assuming that the IELTS examination material developers would have covered this when selecting the texts. Further, no readability tests were conducted taking into account the ‘shortcomings of the formulas to test readability as accurate measures’ (Paulston & Bruder, 1976; Nuttall, 1998, in Jalilifar et al., 2008:219).

Furthermore, the IELTS test is not my own design. Nonetheless, to make sure the texts were suitable for the purpose of the present study, teachers were asked to give their opinions on the content, level of reading difficulty, and specialized vocabulary and syntactic and semantic organization of the selected texts. They were also asked whether they considered these texts to be appropriate for use in their own classes and whether they thought the texts would be suitable and accessible to students if used as a test. Teachers were unanimous about the suitability and appropriateness of the selected texts, as well as the suitability of the content for the type of participants in the IELTS. The texts did not undergo any adaptations, i.e. no editions, deletions, additions or replacement of words were made, nor were translations or prompting glossaries compiled or added. This was in order to maintain the authenticity of the texts as they are presented in the IELTS test. The texts did however reflect the nature of authentic academic texts read in classes at university level.

Each participant was supplied with an answer sheet to fill in the options and thus avoid losing time to respond in full. At the end of the allowed time, the participants were to hand in the tests even if some sections might not have been totally completed. A cognitive and metacognitive questionnaire (see Chapter 6) was handed over by the researcher to all test takers and an allowance of three days was established as deadline to complete this questionnaire and hand it back to the researcher. Tests were marked and results plotted in tables for analyses to assess the degree of text comprehension of the participants. The names of participants were omitted from the table for confidentiality reasons. A code consisting of numbers was attributed to each

participant for i) his/her identification and match with the letters of consent and ii) comparative analysis purposes among the participants of each of the groups.

5.11 Research population

The multilingual context of the present study was described in chapters 1 and 3, with learners of mixed abilities³³ and speaking not only the *lingua franca* and the foreign language in question, English, the latter being the learners' 3rd or 4th language. Further, their level of competence in English, despite the absence of a formal study based on my experience as a teacher, can be deemed weak notwithstanding the fact that these students have had formal instruction in English from late primary and/or early secondary school to school leaving and university level.

The education context is one where learners come from a multiplicity of uneven and heterogeneous educational backgrounds, and suffer from all the known pressures and constraints resulting from lack of adequate resources, which in turn usually results in an inadequate fluency level and usage of Portuguese, the main medium of instruction in public schools and in universities in Mozambique.

The research population in this phase of the study consisted of forty-six (46) Physics undergraduate students who took part in the pilot test group (N46) and twenty eight (N28) Translation and Interpretation degree course students at the Eduardo Mondlane University training to become English to Portuguese and vice versa translators and interpreters; the main medium of instruction for all of them is Portuguese – as it has been from primary school. The participants in the IELTS courses have classes in both Portuguese and English languages due to the nature of the degree course they are following, i.e. Translation and Interpretation – English-Portuguese and vice versa. Their language and linguistic competence in both these languages could be assumed to be higher than that of the pilot test graduate (one of the pre-requisites for entry at the university is an entry exam and for the translators' to be accepted they have to excel in the Portuguese and English language disciplines). At the time of the study the 74 participants were in their 2nd and 3rd year of university studies, their degree course providing much scope

³³ Learners who do share the same language competence and knowledge levels, including the ability to use the foreign language.

for research and exploration of a multitude of texts: they are speakers of Portuguese and use English as a foreign language to comprehend and construe meaning from texts in English and Portuguese in an academic EAP setting and are required to be skilled to do so. They had also undergone EGP formal instruction in secondary and high school from where they graduated after completion of standard 12, the final exit level at the top of the secondary/high (pre-university) school chain. In view of this education and linguistic context, English at the university is taught as a subject with the purpose of enhancing students' reading skills and/or strategies; when they enter university their linguistic competence in English is considered to be very low- anywhere from false beginners to low intermediate to very few selective cases of advanced (proficient) practitioners³⁴. These learners are also speakers of Portuguese (their *lingua franca* and medium of instruction from primary school) and a number of Bantu languages.

Table 11. Linguistic code (L1) of IELTS group

L1 LANGUAGE	No.		%
	IELTS	Pilot Test ³⁵	
PORTUGUESE	11		39.3
BANTU	15		53.5
DNS ^a	02		07.2

^aDid Not State

Their Portuguese language competence is not necessarily high or excellent. This perception on my part is based on my own teaching experience and on empirical evidence which has demonstrated that a large number of university and college students make basic grammar and writing mistakes and struggle to construe meaning when reading and writing in Portuguese; mother tongue also influences how the sentences and utterances are constructed, in particular issues related to sentence structure, and essentially the majority are non-native speakers of both Portuguese and English. All participants (both groups) had an average of 6 to 7 years of English

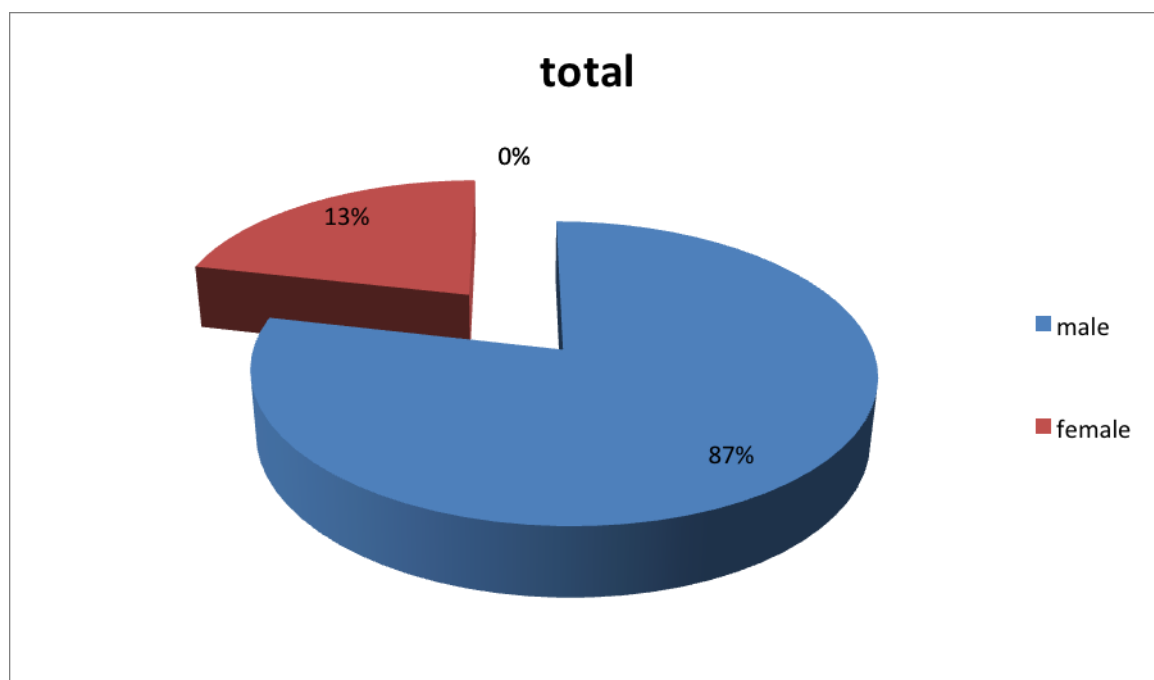
³⁴ See footnote 28 for specific reference on data about research population.

³⁵ This data was not collected.

as an additional language (EAL); very few had had instruction in English at primary school level (only those who might have gone to private primary schools may have had the chance to learn Basic English from then).

The 46 participants in the pilot test group were made up of 06 female and 40 male individuals, 13% and 87% respectively (See Figure3), with different linguistic backgrounds in terms of L1: all speak Portuguese as *lingua franca* except one, a participant from Rwanda studying Physics, who speaks it as a foreign language. No data on their Bantu L1 was collected but their surnames reveal a wide variety of Bantu origins. The participants claimed to have had an average of six to seven years of instruction in English as a foreign language, with the exception of a small number (04) who claimed to have been studying the language for a period of 10 or more years.

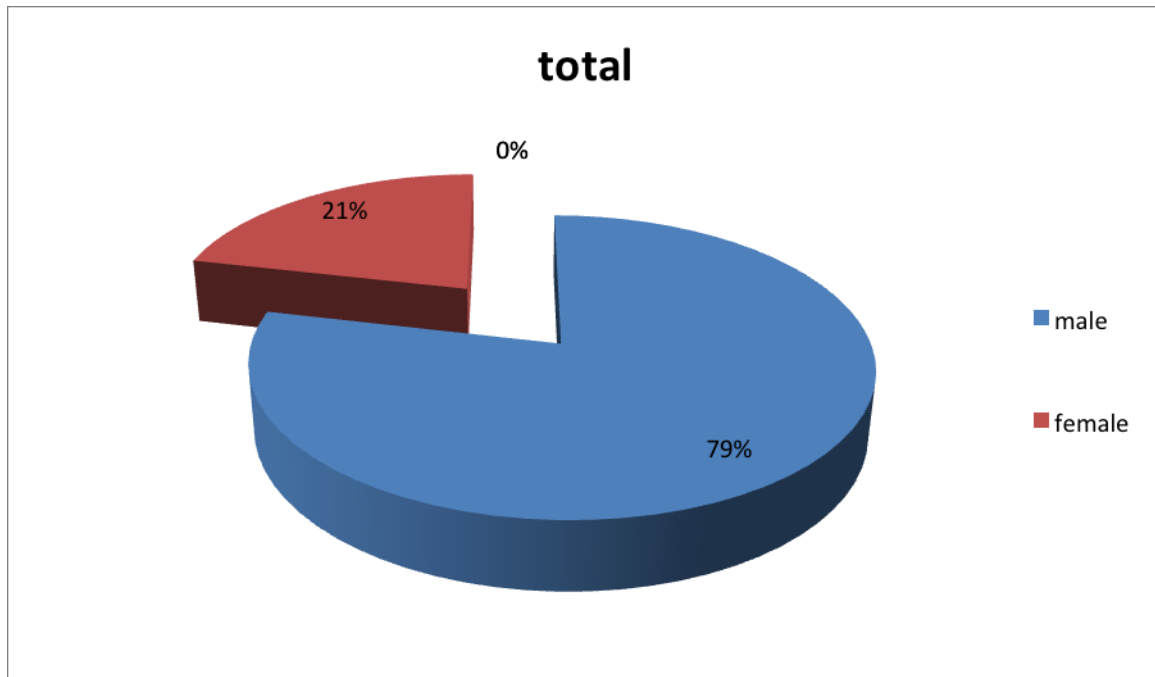
Figure 4. Gender of participants in the Pilot test



The 28 participants in the IELTS test and cognitive and metacognitive questionnaire (Chapter 6 and 7) were a group of 6 female and 22 male individuals, 21% and 79% respectively (See Figure 4) and had a variety of linguistic backgrounds: although Portuguese is the *lingua franca*, only 11 claimed to speak it as their L1. The majority reported speaking a Bantu language as their L1.

This was not a surprise given that most of them are of African descent. Only two of the respondents did not clearly state their mother tongue and/or L1.

Figure 5. Gender of participants in the IELTS



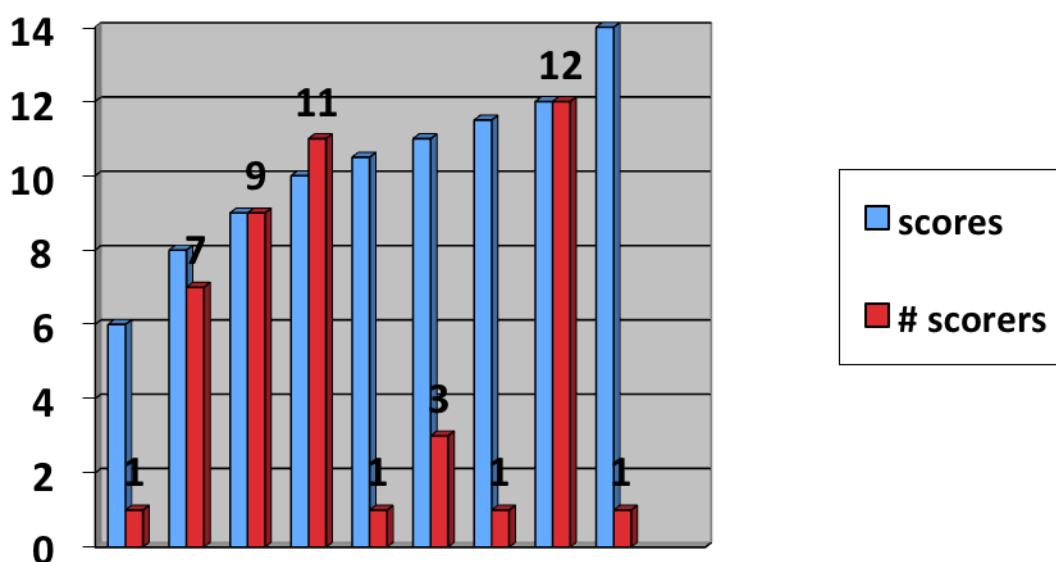
5.12 Findings and Analysis

This section presents the results from the pilot test and from the IELTS reading module administered to the participants. The analysis of both sets results attempts to show their relationship to text comprehension and a probable inference of the types of reading strategies that had been and/or might have been used by the participants, or strategies that may be lacking. The results from the test pilot are presented in Annex G and the pilot test itself can be found in Annex F.

The comprehension pilot test (not an RCT) revealed a group to have achieved average, to good, to excellent marks; the only lowest mark is a 6; there were seven participants with a score of 8 (out of 15), a mark situated slightly above average out of the 46 participants, 09 scored 9, 11 scored a 10 and 01 scored a 10.5 and another one a 11.5. Three scored an 11 and 12 scored a 12.

One scored a 14 and no one out of the participants scored a 13 or the top mark, 15. Out of 46 participants 45 had a positive mark showing a degree of comprehension of $\geq 50\%$ (+), i.e. 97.8% of the test takers. All female participants scored between 10 and 12 out of 15, an average of 9 (60%). Hypothetically, if the results were to be used in a pass/fail exam this would have been an excellent result with only one fail.

Figure 6: Summary of Pilot Test Results



The results of the IELTS comprehension test (0-40 corresponding to 100%) are presented in Table 12 below. The lowest and highest marks are 7 (or 17.5%) and 23 (or 57.5%), respectively. A total of 28 participants sat the test and only 7 had a result equal to or above 50%. Nine participants did not complete the test, specifically part 3 of the test and all of these participants scored a negative result, ranging from 10 (25%) to 14 (35%); there was one Bantu L1 speaker and the remaining 4 were Portuguese L1 speakers.

Table 12: IELTS Reading Comprehension Test Results

IELTS reading comprehension test results.						
No.	Code	Marks (out 40)	%	Gender	First language (L1)	OBS
1	FFN001	07	17.5	M	CiMakonde ^c	
2	SMH002	09	22.5	M	Portuguese	
3	CMH003	09	22.5	M	Tsonga Shanganed	
4	MRM004	08	20.0	M		DNS ^a
5	SVU005	10	25.0	M	Tsonga Shanganed	
6	CXA006	10	25.0	M	Tsonga Shanganed	DNCP3 ^b
7	RMS007	10	25.0	M	Tsonga Shanganed	DNCP3
8	MPT008	11	27.5	M	Portuguese	DNCP3
9	NZN009	11	27.5	F	Portuguese	DNCP3
10	EMA010	11	27.5	M	Tsonga Shanganed	DNCP3
11	GCE011	12	30.0	M	Tsonga Shanganed	DNCP3
12	NVN012	13	32.5	F	Portuguese	
13	PMEO13	13	32.5	M	Portuguese	
14	ACD014	13	32.5	F	Portuguese	DNCP3
15	GSB015	14	35.0	M	Tsonga Shanganed	DNCP3
16	SCH016	14	35.0	M	Tsonga Shanganed	
17	MDD017	14	35.0	M	Emakhuwae ^e	
18	JFG018	14	35.0	M	Portuguese	DNCP3
19	EBJ019	15	37.5	M	Portuguese	
20	DLM020	16	40.0	M		DNS
21	CMT021	19	47.5	M	Tsonga Shanganed	
22	ARM022	20	50.0	M	Tsonga Shanganed	
23	FCM023	20	50.0	F	Cishona ^f	
24	YTD024	20	50.0	F	Portuguese	
25	JBM025	21	52.5	M	Tsonga Shanganed	
26	DIT026	21	52.5	F	Portuguese	
27	BSG027	23	57.5	M	Emakhuwae ^e	
28	JMM028	20	50.0	M	Portuguese	

^a Did not state their first language.

^b Did not complete part 3 (reading passage 3).

^c Bantu language spoken in Cabo Delgado Province (North).

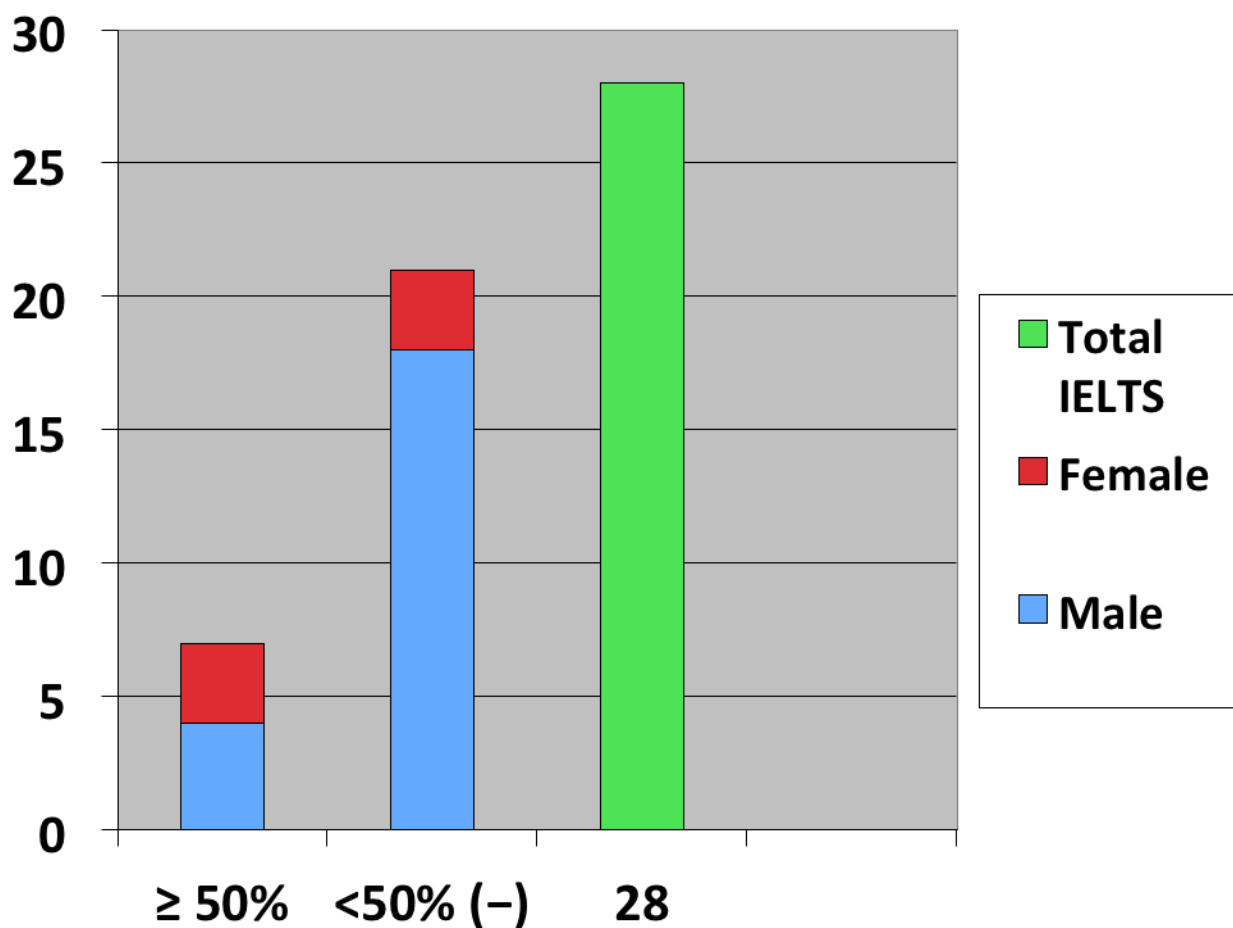
^d Bantu language spoken in the Southern region of Mozambique (Save River to Maputo).

^e Bantu language spoken in the North of Mozambique (Nampula, Cabo Delgado, Niassa and part of Zambezia).

^f Bantu language spoken in Manica province (Mozambique) and Zimbabwe.

As stated above the group of participants was made up of mostly males. Half of the female participants (03) had a score of $\geq 50\%$, representing a 50/50 cut. The male participants however, showed a different trend. Out of 22, only 4 had a score of $\geq 50\%$. This represents 18 % - a very low figure indeed. These results are depicted in the graph below (Figure 6).

Figure 7: IELTS Results (Gender)



Tables 13 and 14 below also show results according to gender and L1. Table 13 accounts for those participants who had a result equal or higher than 50%, whereas Table 14 accounts for results below 50%. Both tables show that L1 speakers of Portuguese and Bantu languages had results below and above 50%, but for those with a result equal or higher than 50% there is no significant difference in terms of gender and/or language. This is more evident for those with

results below 50%, where more male participants (majority at 6/1) had a negative result. For the female participants the distribution is even (3 with < 50% and 3 ≥ 50%).

Table 13 Results ≥50% (+)

Results ≥ 50%	Description	#	%
(+)			
By gender	Male	04	57.1
	Female	03	42.9
Total	M & F	07	100
By L1 language	Portuguese	03	42.9
	Bantu	04	57.1
	DNS	00	0.0
Total		07	100

DNS = did not state

Table 14 Results <50% (-)

Results <50%	Description	#	%
(-)			
By gender	Male	18	85.7
	Female	03	14.3
Total	M & F	21	100
By L1 language	Portuguese	08	38.09
	Bantu	11	52.38
	DNS	02	9.52
Total		21	100

For the general text comprehension, the average shown below (Table 15) presents a picture where comprehension is situated at 20.71 for those with a result ≥ 50%, and 12.04 for those with a result < 50%. The mean for the total participants is very low at 16.57% of text comprehension. These results are further discussed below.

Table 15 Reading Comprehension Mean

Description	#	(%)	Mean (marks out of 40)
< 50% (-)	21	75.0	12.04
≥50% (+)	7	25.0	20.71
Total	28	100	
			16.57

5.13 Discussion

5.13.1 Brief overview

The nature of the current study required a mixed methodology approach involving a set of methods, namely, a Needs Analysis associated with reading skills/strategies taxonomies, to complement this analysis, questionnaires to both student and language teacher participants –, Reading Comprehension Testing (IELTS) to students, and Think Alouds (TAM). Due to the number of methods and their interrelatedness, any discussion of the results is a complex one and this is applicable to the discussion of the results of the reading test alone in the present section. Chapters 6 and 7 expand the discussion hereby presented. The brief discussion of the results in the present chapter is linked to one about the Needs Analysis in Chapter 4 to build a bridge towards the discussion of findings documented in subsequent chapters.

I attempt to correlate results from the IELTS reading module with the reading abilities the IELTS test attempted to assess in order to gain adequate data onto how these results are linked to the participants' ability to construe meaning. This process is further developed and discussed in subsequent chapters. For this purpose I reviewed a number of studies, which have correlated reading comprehension tests with reading skills/strategies (readers' awareness and/or use of cognitive and/or metacognitive strategies), and these have shown relationship between two or three variables both quantitatively and qualitatively (Yang & Zhang, 2002; Vidal, 2002; Karbalaee, 2012).

This present brief discussion represents the study's second step towards finding answers to the questions posited at the beginning of the study using A Needs Analysis was a starting point for investigate the current status of the teaching of English as a Foreign Language (including English for specific and academic purposes EFL, ESP and EAP) at the UEM. This analysis identified and classified the specific reading skills and strategies students are purportedly taught in these courses through certain prescribed textbooks and how these help or do not help students to construe meaning. I identified and classified the reading skills and strategies purportedly being taught using these textbooks using different reading taxonomies (see Chapter 4) to answer, partially, the questions posed in the Needs Analysis Chapter, i.e. the appropriacy and adequacy of the textbooks in the EFL environment at UEM in terms of developing reading skills and

strategies for students for the required purposes. The multilingual context and language learning history of most of the learners/readers using these textbooks is described above (5.10) (see Table 16). Although there may be indications that they comprehend text in the tertiary setting essentially in the Portuguese language, there is a need to assess as accurately as possible the degree of text comprehension and meaning construction in a FL of students. In this context Bernhardt's (2005, 2011) argument in terms of the variables in comprehension strategies has been discussed in terms of variables still to be thoroughly comprehended. TAs has been mentioned, as well as the scarcity of research studies involving L1 Portuguese speakers operating within a multilingual foreign language context. Thus, given these factors and my research aims, and building on the documenting of the Needs Analysis phase of the study in Chapter 4, I briefly discuss the results of the comprehension tests in the present chapter.

Being aware of the dangers of a superficial discussion and hasty conclusions I took care in chapters 6 and 7 to present an in-depth discussion concerning the questions posed in the preceding chapters and in this chapter. This is also in line with the sequence of the phases of the research, coming as it does after the description and discussion of the administering of the TAM and the cognitive and metacognitive questionnaires, and the possibility of more detailed features pertaining to the use of reading skills and strategies in the construction of meaning from a comprehension being revealed.

5.13.2. Foregrounding

As mentioned in Chapter 4, the Nucleus Series used to provide English in most degree courses in the field of Earth and Exact sciences at UEM had been subjected to scrutiny by various international researchers in the past (see chapter 4 and works by Dudley-Evans and St. John, 1998; West, 1998; Robinson, 1991) who deemed these textbooks inappropriate for reasons described in detail in Chapter 4. I also mentioned earlier the presumed aim of the English courses at UEM was to enhance the ability of learners to construe meaning from academic texts written in English using adequate reading skills and strategies and that this presumed objective has been compromised after a long standing use of such textbooks as described above despite the known

handicaps and that one could argue that this could explain the below average level of text comprehension on the part of students in these courses and in the UEM as a whole. Language competence in both the target language, English and possibly the official language Portuguese could also be the reason behind the relatively low level of comprehension. These issues are explored in the course of the discussion, one envisioned outcome of this research being in the interests of learners developing ‘academic language proficiency as well as content-area knowledge and skills to succeed’ in their academic and daily life environments (Garcia, 2000; Freeman & Freeman, 2003; Koda, 2005), as well as being based on the assumption that academic reading strategies are indispensable to construing meaning of research articles/texts, as is the ability to be academically literate in the foreign language. The FL tertiary student/reader needs both of these competencies at high levels of processing.

5.13.3. Discussion of RCT and Pilot test findings:

It was clear from the above that the tests used in the study are different in nature and purpose and seek to test different aspects. I have mentioned that the pilot test did not provide enough grounds to assess the use of reading comprehension strategies, but that it has provided informative data that can be used for comparative purposes.

Table 16. Pilot and IELTS reading comprehension test results compared

Name		Code		Gender	& Code	Nat/Lang.		Score	
								15/15 = 100%	40/40 = 100%
Pilot	IELTS	Pilot	IELTS	Pilot	IELTS	Pilot	IELTS	Pilot	IELTS
EMME	FFN001	022	001	Male 2	M	Moz	Cimakonde ^c	6	07
ES	SMH002	004	002	Male 2	M	Moz	Portuguese	8	09
BD	CMH003	005	003	Male 2	M	Moz	Tsonga Shanganed ^d	8	09
AA	MRM004	013	004	Male 2	M	Moz	DNS ^a	8	08
MM	SVU005	027	005	Male 2	M	Moz	Tsonga Shanganed ^d	8	10 DNCP3 ^b
GM	CXA006	032	006	Male 2	M	Moz	Tsonga Shanganed ^d	8	10 DNCP3 ^b
JT	RMS007	037	007	Male 2	M	Moz	Tsonga Shanganed ^d	8	10 DNCP3 ^b
AS	MPT008	039	008	Male 2	M	Moz	Portuguese	8	11 DNCP3 ^b
HP	NZN009	030	009	Male 2	F	Moz	Portuguese	9	11 DNCP3 ^b
EJ	EMA010	031	010	Female 1	M	Moz	Tsonga Shanganed ^d	9	11 DNCP3 ^b
Top Ten									
VM	EBJ019	002	019	Male2	M	Moz	Portuguese	12	15
RJ	DLM020	003	020	Male2	M	Moz	DNS ^a	12	16
AM	CMT021	008	021	Male2	M	Moz	Tsonga Shanganed ^d	12	19
CM	ARM022	009	022	Male2	M	Moz	Tsonga Shanganed ^d	12	20
CB	FCM023	010	023	Female 1	F	Moz	Cishona ^f	12	20
DM	YTD024	011	024	Male 2	F	Moz	Portuguese	12	20
EMM	JMM028	015	028	Male 2	M	Rwanda	Portuguese	12	20
JMM	JBM025	044	025	Female 1	M	Moz	Tsonga Shanganed ^d	12	21
HG	DIT026	026	026	Male2	F	Moz	Portuguese	12	21
DE	BSG027	038	027	Male 2	M	Moz	Emakhuwa ^e	14	23

^a Did not state their first language.

^b Did not complete part 3 (reading passage 3).

^c Bantu language spoken in Cabo Delgado Province (North).

^d Bantu language spoken in the Southern region of Mozambique (Save River to Maputo).

^e Bantu language spoken in the North of Mozambique (Nampula, Cabo Delgado, Niassa and part of Zambezia).

^f Bantu language spoken in Manica province (Mozambique) and Zimbabwe.

The table above clearly depicts the different sets of the results of the two tests. The pilot test results show that the level of comprehension, if correlated with test marks (positive marks), 45 participants out of 46 had a positive mark showing the degree of comprehension of $\geq 50\%$ (+), i.e. 97.8% of the test takers, is higher than that shown in the IELTS reading comprehension test: the lowest and highest marks in this test are 7 (or 17.5%) and 23 (or 57.5%), and only 7 out of a total of 28 participants had a result equal or above 50%. The possible reasons for these different pictures are discussed below.

Tables 15 and 16 show the text comprehension level of the participants in the present study to be very low. The general comprehension average is situated at 20.71 for those with a result $\geq 50\%$, and 12.04 for those with a result $< 50\%$. The mean for the total participants is also very low at 16.57% of text comprehension for the first group. Clearly these reading comprehension results show that students have low levels of text comprehension, denoting a possible inappropriate use of reading skills. I would suggest that another reason for this could be the outdated, rigid nature and inadequacy of the prescribed textbooks for the context and defined aims for the course, or perhaps a lack of language competence on the part of the learners, or a combination of all three. Yang and Zhang (2002) concluded in their study that the level of English language proficiency and metacognitive awareness affected learners'/readers' reading comprehension ability, and that learners' metacognition had an impact on both EFL proficiency and EFL reading performance. I have suggested in this study the possibility that learners at UEM, and those taking part in the study, (might) have language competence problems (based on conclusions drawn from years of experience and teaching and testing practices) and, like the Chinese college EFL readers in Yang and Zhang's study, the UEM students' need for a sound foundation in the foreign language is a *sine qua non* for them to construe meaning from FL texts more efficiently and effectively, not excluding their need to have a high degree of metacognitive awareness for the same purpose. This latter aspect is further explored in Chapter 6.

5.13.4. Additional Variables Influencing RCT Results

As has been shown above, the pilot test and the IELTS are different in nature (see sections 5.8 and 5.8.1.) and thus it would be important to look at other possible variables that may have played a role in the outcome from the tests. One of these variables is the type of questions in both tests.

Reading ability: The Pilot Test questions (See Annex F) are different from those in the IELTS test (Annex K) in the sense that all call for a kind of reading ability that demands those low cognitive reading processing skills used to access literal comprehension of texts, needing only surface meaning to be understood, i.e. the reader is required to find information and ideas and vocabulary items that are explicitly stated in the text, whereas the questions in the IELTS test demand high cognitive and metacognitive processing skills, as will be discussed in detail below.

Pilot test and results per question type/group: All questions but the first in the Pilot test (groups I, II, III) demanded that the participants find an explicitly stated lexical item in the text and fill the gap or select a choice (MC). Group I ('Circle the statement that best represents the main point of the text above') was the only question that went slightly beyond the literal strand of comprehension. This question called for some of those reading skills used for finding interpretive or referential ideas in a text, despite the clearly stated ideas in the text. The test taker had to a lesser degree look for ideas that demanded a thinking process that needed him/her to use those reading/cognitive skills mentioned above involving drawing conclusions, making generalizations and predicting outcomes where he/she would have to go i) beyond what is said; ii) read for deeper meanings; iii) be able to read critically and analyse the text carefully, and iv) be able to see relationships between and among ideas (e.g. how ideas go together and also see the implied meanings of these ideas) in depth (see Table 9, section 5.5).

IELTS RCT and results per question type/group:

The IELTS reading comprehension test questions (see sections 5.8 and 5.8.1 above and Annex K for details) are almost all of the type of question that demands high cognitive and metacognitive processing skills to interpret and critically analyse a text. Participants had to think critically and

interpret content to be able to answer the questions, i.e. use those cognitive skills listed in the previous paragraph. The questions in the IELTS were designed in such a manner that they required the reader to be able to do many of the following as specified by Alderson (2000): i) identify structure, content, sequence of events and procedures, ii) follow instructions, iii) find the main ideas which the writer has attempted to make salient (questions 1-13), iv) identify the underlying theme, v) identify ideas in the text, and relationships between them, e.g. probability, solution, cause, effect vi) identify, distinguish and compare facts, evidence, opinions, implications, definitions and hypotheses, (questions 14-19), vii) evaluate and challenge evidence, viii) formulate an hypothesis, ix) reach a conclusion by relating supporting evidence to the main idea, and x) draw logical inferences (questions 20-40).

All these aspects form the basis of the construct validity of the IELTS (in Alderson, 2000:131) and dictate the type of reading skills a reader must have to answer the test and thus demonstrate her or his level of text comprehension. The participants in my study showed a rather low level of text comprehension, the probability existing that they may not have used the combination of cognitive metacognitive skills needed to fully access comprehension from a text. This issue is explored in the section below.

The outcomes of the IELTS in Table 17 below show the scores per group of questions in conformity with the test organization, and show a relationship of these results with the adequate reading strategies, which the readers of the text would have needed to answer the questions and perform better. A closer look at the results per group of questions shows that the overall score per participant per group of question is very low indeed, except in GQIV, where participants 023, 025, 026 and 027, who scored 50% or high in the IELTS, had a score slightly above average. It is however, surprising that the same participants had a low score in some of the groups of questions (participants 022-028), namely in the GQIII, questions 14-19, where participants needed to iv) identify the underlying theme, v) identify ideas in the text, and relationships between them, e.g. probability, solution, cause, effect, and vi) identify, distinguish and compare facts, evidence, opinions, implications, definitions and hypotheses. This suggests that they had better and/or adequate use of reading ability and used reading skills effectively to vii) evaluate and challenge evidence, viii) formulate an hypothesis, ix) reach a conclusion by relating supporting evidence

to the main idea, and x) draw logical inferences, and thus effectively comprehend this part of the test. The results are slightly blurred in terms of formulating a clear line of reasoning for these discrepancies at this stage.

Table 17 IELTS scores per group of questions and mean

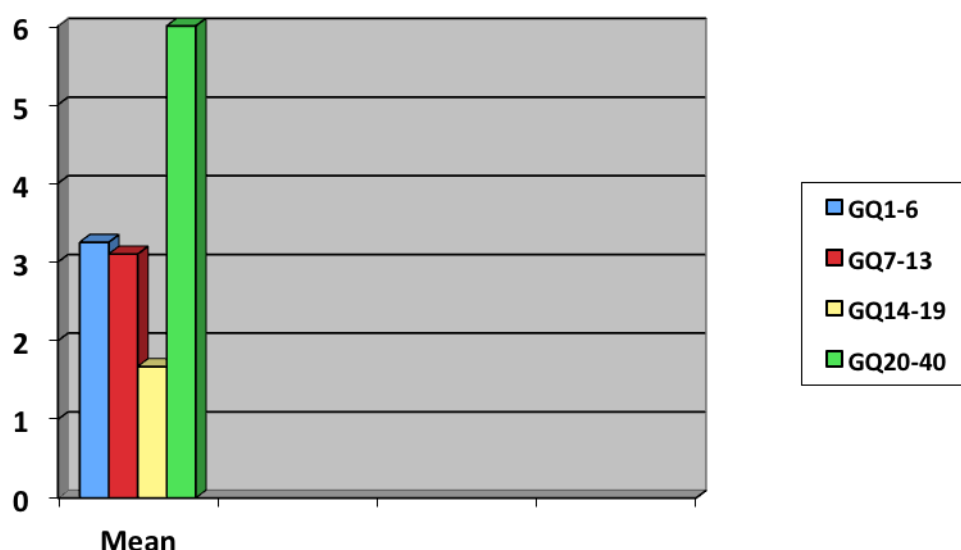
Code of Participant	GQI(1-6)	GQII(7-13)	GQIII(14-19)	GQIV(20-40)	
	score= 6	score= 7	Score = 6	score= 20	Total IELTS score = 40
001	2	3	0	2	07
002	3	0	2	4	09
003	3	2	3	1	09
004	3	0	2	3	08
005	2	3	1	4	10
006	2	1	0	7	10 DNCP3b
007	2	2	1	5	10 DNCP3b
008	4	3	0	4	11 DNCP3b
009	5	3	2	1	11 DNCP3b
010	3	2	2	4	11 DNCP3b
011	3	3	2	4	12 DNCP3b
012	4	3	1	5	13
013	4	3	2	4	13
014	5	2	2	4	13 DNCP3b
015	3	2	2	7	14 DNCP3b
016	3	5	4	2	14
017	3	3	2	6	14
018	4	4	3	3	14 DNCP3b
019	2	5	1	7	15
020	3	2	2	9	16
021	4	2	2	11	19
022	4	5	3	8	20
023	4	5	0	11	20
024	5	5	1	9	20
025	2	5	2	12	21
026	2	6	1	12	21
027	4	6	2	11	23
028	3	7	2	8	20
Mean	3.25	3.10	1.67	6.0	
Grand average a	3.05				

a. Grand average calculated by adding up all partial means and divided by number of sections in table (i.e. groups of questions, $GQ1-6+GQ7-13+GQ14-19+GQ20-40 = \text{Grand average}$)

b. Did not complete part 3 (reading passage 3).

Individually, the groups of questions GQI and GQII (1-13) show that all but one participant (i.e. 028) managed to get 100% in GQII and some others (09, 014, 016, and 019) who had a an overall IELTS score of below 50% managed a reasonable outcome but not enough to compensate for the low scores in the remaining sections (GQs). This resulted in a very low overall mean of 3.05 points per section in the IELTS.

Figure 8. Mean Results of Group of Questions 1-40



In the GQIII group of questions (questions 14-19), a picture of very low scores emerged throughout the entire group of participants. Based on these results I would venture to suggest that the participants lacked the ability to use adequately skills such recognition and matching in locating a group of skills (Rosenthine, 1980), skills that could be used to identify the underlying theme and identify ideas in the text. They also failed to understand certain words within the context, the sequence of events and their relationship, and eventually draw conclusions to be able to match the headings with the appropriate content and that which could reflect the ideas posited in each paragraph of the passage (See Annex K, reading passage 2). The other half of the IELTS RCT demands from the reader the ability to vii) evaluate and challenge evidence, viii) formulate an hypothesis, ix) reach a conclusion by relating supporting evidence to the main idea, and x) draw logical inferences (questions 20-40 in the IELTS RCT). These categories are rather

complex and demand high order cognitive and metacognitive strategy use in combination with support strategies (mostly for competent foreign language readers). The findings below show that not all participants were able to engage with the adequate reading skills and the ability to respond positively to the section, and not all were able to attain the maximum points (20), although a few managed to attain average scores. As suggested above, these participants (023, 025, 026 and 027) showed the ability to recognize the main idea and draw conclusions, and summarize the main topics/ideas accordingly, hence the IELTS outcome. The participants in this test had to use reading strategies such as MET1, MET4, MET5, MET7, MET9 and MET10, COG1, COG8, COG9, COG10, and almost all SUPs supply strategies (Sheorey & Mokhtari, 2001).

Although the instructions in the IELTS are clear, there is a possibility of the foreign language (target language) being a problem in terms of following instructions and/or comprehending the task (participants are FL English speakers with Bantu and/or Portuguese as L1). It should be noted here that L1 does not seem to be a significant variable, possibly because all participants had Portuguese as medium of instruction from primary school. Although no genre analysis was carried out, one can support the idea that scientific letters [texts], considered to be ‘lower’ order texts (Hyland, 2004), should be viewed with care, for, as has been mentioned above, ‘in traditional structuralist terms, items that occupy different structural positions in their systems (...) and in functional terms, texts with (somewhat) different purposes belong to (somewhat) different genres’ (Swales, 2004, Hyland & Tse, 2004). The texts in both IELTS and Pilot Tests were scientific but different in nature which may have demanded a different set of reading strategies, hence the different scores. For instance responses of the top 5 scores in the IELTS, namely 024 (20/50%), 028 (20/50%), 025(21/52.5%), 026(21/52.5%), 027(23/57.5%) and the bottom 5, 001(07/17.5%) 004 (08/20.0%), 003(08/22.5%), 002(09/22.5%), 005(10/25%) had a significant difference in marks for Part II, reading passage 2 (GQ14-19) as discussed above. There are strong reasons for arguing that the participants failed to show an efficient use of the strategies of competent readers (see Table 6, chapter 2), as is shown by the outcomes from the IELTS RCT. This and other issues are explored in chapters 6 and 7.

5.13.5. What have I learned: RCT scores matched to reading strategies?

For GQ 1–13 and GQ 20–40 the IELTS RCT participants who had high scores show a range of 15 to 20 correct answers. The low scores, however, had their final overall test mark attained from scores scattered across the test and without any specific pattern. These participants had 7 to 10 correct answers with sections where they were unable to get any correct answer. This suggests that these participants (EFL low scoring readers) could not i) identify structure, content, sequence of events and procedures, ii) follow instructions, iii) find main ideas which the writer has attempted to make salient (questions 1–13 in the IELTS RCT), iv) identify the underlying theme, v) identify ideas in the text, and relationships between them, e.g. probability, solution, cause, effect vi) identify, distinguish and compare facts, evidence, opinions, implications, definitions and hypotheses (questions 14–19 in the IELTS RCT) which need a combination of cognitive (COG1,4,6,8,9,10,11), metacognitive (MET4,7,10) and support strategies (SUP 1–5), whereas the top scorers managed to do so. It should be noted here that, from the 28 participants who sat the test, 9 did not complete part 3 of the RCT and all of these scored a negative result, ranging from 10 (25%) to 14 (35%). This is a clear enough indication that the need reading strategies, i.e. complex inferential skills that demand the recognition of main idea/title/topic, drawing conclusions and predict outcomes (Rosenthine, 1980), the use of a combination of cognitive, metacognitive and support strategies (Sheorey & Mokhtari, 2001) were not used adequately despite the RCT's familiar topic and language (see Annex K). It was not a simple task to infer which individual reading strategies participants had not used at this point. This could only be inferred with any certainty in the research documented and discussed in chapters 6 and 7 but it should be possible to claim the self-reported non- use of COG 1, 4, 9, 10, MET 1, 3,4,7,8, and possibly all SUP 1–5, which may have played a significant role on the RCT outcomes (see Chapter 2, section 2.11.2 for a list of all reading skills and strategies taxonomies).

To explain the difference in scores between the IELTS RCT and the Pilot Test one could also advance the issue of time. The Pilot Test was administered within the time limits of a normal evaluation/assessment exercise in the University, a system with which the participants were familiar, coupled with the types of questions (M/C and gap filling), which demanded simply finding lexical items explicitly stated. This could explain the excellent results attained by participants in the test (all but one participant achieved a positive score): the lowest scorer (only

one) had a 6 (40%) and the five top scores (ranging between 12 and 14 out of 15) represent very high score level, with 80% (4 participants) and 93% (01 participant). However, the IELTS reading module has its own time limits per section and this may have brought some pressure to bear on students.

As mentioned elsewhere in the course of this study, reading strategies include the planning of how to approach the reading of a certain text, testing and revising preliminary ideas regarding the text, or deciding whether the reading speed is adequate for processing a text according to the purpose and time availability (Devine, 1993; Li & Errey, 2008). Participants may have failed to use any of these strategies, which could explain their failure to complete the final part of the IELTS RCT, Test 3 (Reading passages 2 and 3, GQ 20-40). This, coupled with those factors I have described above, could form the basis of my argument in terms of some of the reasons for the poor performance of participants in the IELTS compared with that in the Pilot Test.

5.13.6. Further relevance of Needs Analysis findings to RCT scores

I would argue that the results of the two tests, and the comparison of the scores, show clear evidence of the level of participants' reading competency and, based on this, I venture to suggest that the intensive use of a commercially driven textbook (The First Certificate) in their courses has not helped to improve either the language competence of the students or resulted in sufficient development of their reading strategies and skills in reading comprehension. Clearly the First Certificate textbook focuses on the enhancement of 'language skills' in a somewhat technical, superficial and decontextualized way, and not on all the subscales of reading comprehension as a whole. Yet the self-reported or stated aim of the English section at UEM for selecting and using the textbook in their EAP and ESP courses, remains unclear to the researcher in the current study, for any insights into the reasons for this choice of textbook and its use could have been abstracted from the questionnaires that the English section language practitioners disregarded or ignored, and thus I was not able to obtain clarity as to whether the choice and purpose of the textbook had been to enhance learners' language competence or reading skills, and how they envisaged this happening. One could speculate whether this attitude could also denote a lack of a clearly defined aim in this section, resulting in unclear methodology and/or insufficiently

appropriate provision of English. Some or all of these factors could account for the reading comprehension test results.

The detailed analyses of the textbooks in Chapter 4 yielded results that do not significantly differ from those in past studies such as that of 1998 Dudley-Evans and St. John. The uniform nature of the manuals, and the period (the 1980s) in which they were designed may be the reason behind the kinds of results I obtained from the reading comprehension tests, perhaps coupled with the variable motivation (old texts with old subjects may not trigger adequate response from young university learners, if one may speculate). The historical and linguistic reasons for the form and content of the textbooks used in the English language courses at UEM are explained in detail in Chapter 4 (4.1.2 and 4.5.1), as well as the challenge to this language textbook type presented by the emergence of Language for Specific Purposes pedagogy (Phan Le Ha, 2005). Textbooks like those in the Nucleus Series are still in use at the UEM and, based on the findings of this study, I would argue have been used for a period long enough to have solidified a form of pedagogy which has patently failed to develop adequate reading comprehension skills in students taking these courses. Thus one can conclude that the textbooks are outdated and in need of a timeous and swift change. In Chapter 4 the findings of the Needs Analysis showed the high level of features of register analysis, an approach highly criticised in the past for the reasons listed in 4.1.2 and 4.5.1 for their use of lengthy non-authentic specialist reading passages and surface level exercises (Dudley-Evans & St. John, 1998), such as those used in the Pilot Test in this study.

5.14 Conclusions:

The questions I set out to address in this chapter, and what I hoped achieve in both the short and the long term were as follows:

- i) By using a reading comprehension test (to support and complement the results from the questionnaire administered to students and language teachers) I hoped to gain insight into the **How** and the **What**- trait, namely, participant's use of certain reading comprehension strategies in order to develop a template for improving the long standing and yet to be reviewed and/or reformulated courses at UEM (one of the central reasons for carrying out

a Needs Analysis in Chapter 4) and to assess the level of reading comprehension of the participants,

- ii) Related to i) above, from the nature and quality of the answers to the test questions, and the scores achieved by participants, I began to infer whether and which reading skills and strategies might have played a role and enabled EFL learners/readers to cope adequately with authentic academic texts (in English) and construct meaning adequately for their learning processes

Possibly as a result of the long standing use of outdated and inappropriate textbooks, coupled with the way in which the goals of the English language courses have been and continue to be defined at UEM, certain conclusions could be drawn from the reading comprehension test results in Table 12. These indicate that only 7 out of 28 had a reasonable degree of test comprehension (IELTS standards in band 4.5 to 5.5). This would indicate that all of those participants who did not complete the test (DNCP3) had degree of test comprehension of $\geq 50\%$. Non-completion of parts of the RCT could be an indication that the approach to developing reading comprehension in the EAP-ESP courses have failed, suggesting a failure to adequately meet the stated aims of the university EAP course: to develop and enhance the reading skills/strategies of students in their reading of, and construing meaning from, authentic texts in English. One other suggestion could be related to the failure of these courses to provide students with adequate strategies for them to know 'how to understand the main ideas and to find specific information' (Witt's, 1997, in Alderson, 2000:131), and be able to 'survey the text; analyse the questions; go back to the text to find answers; check the answers' (Witt's 1997 in Alderson 2000:131) as fast and accurately as possible. The question remains as to whether this disturbing situation could be blamed on students' general lack of language competence as well as a lack and/or poor use of reading skills. It is possible that the answer could be either or both of these, i.e. the reading time limitation/length of reading passages while participants were being tested and their general L1 or FL capabilities. The results of the reading comprehension should be a cause for concern for any Higher Education institution in a multilingual context such as the UEM, particularly if a reasonably high level of FL competency is required for admission to a university outside Mozambique. Thus I would argue that some of the blame for students' generally low level of English language and reading competency should be placed on the reviewed textbooks, and the

inertia related to any departmental evaluation of these; the textbooks have been clearly shown to be to a large degree inappropriate for the present needs of students, and in terms of more recent language pedagogy trends, appear to have in no way helped enhance students' reading capability or their usage of reading skills and strategies. The study results in the current chapter have also provided grounds for me to claim that the participants have failed to resort to adequate reading skills for construing meaning and for achieving better results in the RCTs. To some extent the test results served the purpose of inferring some of the kinds of reading skills participating students needed to answer the reading comprehension questions. As already reported above the results could be said to be an indication that participants failed to use those reading strategies specified above which could have yielded better RCT outcomes. At this stage these claims cannot be made with any degree of certainty. Discussions in Chapters 6 and 7 could possibly make a case for accepting these arguments or reasons for the poor performance of participants in the IELTS RCT test. The study results yielded at this stage are not yet sufficiently conclusive for use in presenting any sort of template for the design of an improved reading course. This would be dependent upon further studies to discover other variables such as the attitudes of the language practitioners at UEM towards teaching materials and pedagogy and a review of these.

The reading comprehension results corroborate the argument of Tajino et al.(2005) , as set out in detail in Chapter 4 (4.5.1 and 4.5.2) that the designing of any course requires collaboration and cooperation among the various concerned stakeholders, and, as described in Chapter 4, Jordan(1997, 2004) lists various alternative research methodologies to facilitate meaningful collaboration. From this list I selected the questionnaire as the instrument for eliciting the main source of data which I hoped would ultimately inform a possible change of approach and resource material in the EAP courses. . In the case of the student participants, all but 4, 19.04%, collaborated in this stage of the research.

However the lack of cooperation on the part of the language practitioners from the English section of the UEM in filling in the questionnaires, and their disregard for the decision of those higher up in the English section hierarchy to run a study such as mine in order to investigate the status of the teaching and learning of English, and the views and rationale behind the materials used in the courses, essentially those related to the First Certificate textbook, led me to conclude that there is a larger systemic problem with regard to teaching practices in general, and the

attitude of the language teachers in the English section of the UEM in particular, which may have resulted in the inadequate provision to students of skills and competences to meet the stated purpose of enhancing and developing their reading skills and strategies. This inadequacy on the part of these teachers is clearly shown in the comparison of the IELTS and Pilot Test results, which provide sufficient grounds for suggesting the inadequate use of reading /skills strategies on the part of students to source out and/or construe meaning from text. The failure of a large proportion of them to use, the skills and strategies listed above may have played a significant role in the poor RCT test results. This is also corroborated by indications of the participants' failure to plan ways of approaching the reading of a certain text, in the process of which they would be testing and revising their initial ideas regarding the text, or deciding whether speed is adequate for processing a text according to the purpose and time availability (Devine, 1993, Li & Errey, 2008) as has already been described and which in all probability led to the non-completion of the final part of the RCT (IELTS, part III). For the Pilot test however, one can argue for the reasons for the excellent results attained by the participants. These may not be the result of participants' adequate use of reading strategies (hard to tell at this point) but to do with their familiarity with the text topic and theme, and the simple and superficial nature of the exercises (M/C and gap filling) a variable which can lead to biased conclusions and not necessarily constitute evidence of the participants' adequate or inadequate use of reading comprehension strategies. Further, as already discussed above, testing methods which included true or false and multiple choice whose responses are in most cases not passage dependent (Bernhardt, 1983) were clearly evident in the Pilot Test, where participants might have been able to select or 'hit on' an answer to a comprehension question even without having understood the text (see Bernhardt (1983) who refers to Pyrczak (1975). Aspects such as 1) prior knowledge; 2) the "interrelatedness" of questions and 3) the general construction of MC/Gap filling tests may have influenced the type of results attained and this is not unusual in a FL testing of comprehension, essentially where aspects related to prior knowledge, passage dependence and interrelatedness (the latter being more pronounced in FL due to the limitation of vocabulary FL learners possess) (Bernhardt, 1983) come into play. Scores from MC, Gap filling and similar tests do not necessarily reflect the degree of comprehension, or the reason why the reliability and validity of these types of tests have been, and continue to be, questioned (Pyrczak, 1975; Bernhardt, 1983; Shohamy, 1984; Alsanian, 1985, Peretz & Shoam, 1990; Alderson, 1996, 2000).

Thus a combination of factors can account for the reasons for the results attained in the Pilot Test and also adequately explain the low scores in the IELTS. One thing I am certain of is, and for reasons that have been explored in this chapter, the generally low level of reading comprehension of the participants demonstrated by the IELTS RCT shows the IELTS to be a more reliable test than the pilot test.

In the following chapter, building on the results from the present chapter and Chapter 4, I describe the administering of the cognitive and metacognitive questionnaire to students, including the rationale for its use as a research tool. This questionnaire reveals the self-reported conscious use of reading strategies by participants. I present a discussion of the findings from this questionnaire and advance some conclusions which pave the way to linking this with the effective use of reading strategies discussed in chapter 7.

CHAPTER 6 STUDY PHASE III: COGNITION AND METACOGNITION

6.1 Overview

This chapter presents a discussion of the results from the cognitive and metacognitive questionnaire administered to student participants subsequent to their sitting a reading comprehension test (Chapter 5), a questionnaire partly based on the Survey of Reading Strategies (SORS), which reveal the self-reported use of reading strategies by participants. The results from this questionnaire build on the results from the Needs Analysis from the two reading comprehension tests discussed in Chapters 4 and 5 respectively. The Needs Analysis in Chapter 4 showed a number of cognitive and metacognitive reading skills and strategies to be purportedly taught in the EAP courses using outdated and inadequate textbooks, and chapter 5 presented an analysis and discussion of the level of text comprehension revealed among student participants taking two reading comprehension tests (pilot and IELTS), participants in the IELTS tests, whereas the group sitting the pilot test (not an RCT) achieved average to good and excellent marks. Overall, the IELTS results did not conclusively show a relationship with the participants' degree of text comprehension and their effective use of reading skills and strategies, although an inference in terms of the types of reading strategies used (or needed) or not used to construe meaning was attempted. Preliminary conclusions were advanced pending the next stage of the study, which is documented and discussed in this chapter.

This chapter first looks into the skills and strategies FL learners and users of English in an EAP context resort to when constructing meaning from text. Secondly, it assesses the degree of effective use (or claims by them) of reading comprehension skills and strategies by participants who wrote the comprehension test, and thirdly assesses the degree of awareness participants appeared to have of their own use of such reading comprehension skills and strategies, inferred from the results of the cognitive and metacognitive questionnaire. Building upon these findings, this current chapter seeks also to correlate the IELTS test results with the participants' self-reported use of reading skills and strategies and to compare these with L1 and L2 results from similar studies, i.e. Sheorey and Mokhtari (2001).

The introduction to this chapter briefly refers back to the main study questions and to the descriptions and discussions in Chapters 1 and 2 of the developments in reading research in L1, L2 and FL in the course of which the absence, or dearth, of research into reading skills and strategies used in foreign language contexts was noted. The chapter presents the stages involved in the development of the cognition and metacognition questionnaire used in this stage of the study, including those aspects which were adapted, explains the construct. Linked to this is a discussion on the reliability and validity of the research tool. The methodology section presents the procedures followed, a description of the participants, and the data collection. This is followed by a section presenting the findings and analysis of the questionnaire. The findings are presented in two parts: the cognition and the metacognition findings, which are discussed, separately, in the closing section which includes a summary of the main issues.

A more in-depth analysis of the particular kinds of strategies required by students in a FL context to construe meaning and a comparison with findings from the few studies there are in the field of reading comprehension is presented. From this I hope to argue that the self-reported use of reading strategies to construe meaning associated with the absence of appropriate training in, and resources for, reading strategies (chapter 5) may have contributed to the distorted picture of strategy usage (or claims thereof) of FL students when compared to L1 and ESL.

The findings from Chapters 4 and 5 and from the present chapter provide a bridge to Chapter 7 which will use findings from the TAM to confirm or not the self-reported effective use of reading strategies in EAP courses at UEM. Further discussions in Chapter 8 draw conclusions from all the stages of the present study in terms of which kinds of reading comprehension skills and strategies have been identified and used effectively by participants, and, from this I hope to suggest a template for EAP academic courses at UEM and similar FL contexts that take onto account the evidence collected and discussed in this study and ultimately shown to be appropriate for the FL multilingual context described in the introduction to this research.

6.2 Introduction

At the onset of the present study, questions were posed regarding the specific reading strategies used by learners and users of English in an EAP-ESP-EFL context, the extent to which these are being used effectively, and how aware students are of their own use of these (see Chapter 1, section 1.3.4). A subset of issues was also advanced, in terms of identifying the types of reading strategies participants claimed to be using effectively and the possibility of using these to formulate suggestions for designing a template for more effective and useful reading courses in an EAP-ESP for FL multilingual students.

The findings from the IELTS results, discussed in Chapter 5, and which followed a pilot test, revealed a poor degree of comprehension on the part of the participants. It was not however possible in that chapter to fully infer or understand the reasons for this. In this chapter I attempt to provide more comprehensive answers to the questions and subset of research questions by describing and discussing the administering a cognitive and metacognitive questionnaire to student participants, who had sat the RCT (see chapter 5).

Thus, in order to complement and deepen the findings discussed in Chapters 4 and 5, in particular the findings from the comprehension tests, I needed to assess with more accuracy the degree of text comprehension and meaning construction shown by the participants in the study, and the traits revolving around strategy usage. My quest to fill this gap in my research, which represents the ‘50% unexplained variance’ area in Bernhardt’s (2005) model and further developments in 2011, remains a valid proposition at this stage of the study (see Chapters 1, 4, 5) and involves identifying reading comprehension strategies and their effective engagement, their content and domain knowledge and other variables that may be identified in the course of the analysis, as well as their validity for SLA and FL learning and teaching in a FL tertiary education context.

As has been mentioned (see Chapter 5, Section 5.2), the literature shows that most of the research in L2 (Second Language Acquisition - SLA) and/or FL reading strategies has involved students at lower levels of proficiency or enrolled in secondary and pre-university schools (see 5.2). This has resulted in the assumption amongst language practitioners that literature on

reading strategies used by advanced or proficient second language (FL) learners is not visible enough, possibly due to some research findings ‘suggest[ing] that reading problems are closely associated with the level or proficiency in the target language [English]’ (Sheorey & Mokhtari, 2001:434).

These problems (associated with the target language) can also be associated with discussion in the field about the term ‘second’ in Second Language Acquisition. Kerfoot (2009) has referred to this term as a source of problems in the South African education context, where post-Apartheid education policy has led to the adoption of the term ‘additional language’ (EAL) in the formal adult education context as well as in the school language curriculum. There are some similarities between the South African and Mozambican multilingual context. English can be seen as (it was almost always likely to have been in the majority of schools in South Africa) the second language of instruction in Mozambique, for example after Portuguese, in late primary and secondary school through to university level. I would agree with Kerfoot (2009) when she argues that the term ‘second’ does not take account of existing multilingual repertoires or previous language learning experiences (Kerfoot, 2009:18). The L1 pool of languages in Mozambique, consisting essentially of Bantu languages, has not been studied, particularly in terms of their role in the development of the target language, English, an L2 for some but a FL for me and most of the students at UEM. Thus there exists a need to look at this pool of Bantu languages (examples above) and understand their role and that of reading skills and strategies usage in the process of meaning construction in the FL, and thus in the development of an adequate linguistic competence in the target language.

The dearth of research in FL reading strategies at tertiary level, and the quest by researchers in this field to understand developments in this field, with the purpose of widening the basis for a much larger platform of debate, has recently resulted in several research studies on (some aspects of) L2 and FL and on FL reading and reading comprehension strategies in a multilingual context. These relatively few studies have not, however, concentrated upon documenting the types of metacognitive reading strategies of proficient native and non-native readers (Mokhtari & Reichard, 2004). Those that exist have shown virtually no research investigating the metacognitive awareness and use of reading strategies by proficient college or university students studying in different social, cultural and linguistic contexts such as the UEM context

(Mokhtari & Reichard, 2004). In the previous chapter (5.2) I alluded to this fact and reported in detail on research involving adult college/university learners in the SL/FL context, but mostly in places where the learners speak non-cognate languages to English, as evidenced in Vidal's (2002) Brazilian study and studies conducted in the socio-cultural and educational context of the Asian subcontinent in which the several languages were found to be non-cognate languages in comparison to English. Chapter 5 (5.2) lists such studies, mostly on reading comprehension strategies, cognitive and metacognitive strategies, metacognitive awareness and knowledge in EFL. Feng and Mokhtari's (1998) study of Chinese proficient university students was described in the previous chapter, showing the wide-ranging use of supply strategies by students reading in English and in Chinese, and higher frequency use of reading strategies while reading in the second (FL) language than in their first language (L1), and when reading difficult texts in comparison to those used when reading easy texts.

Another study by Jiang and Kuehn (2001), which looked at the relationship between metacognitive reading strategies and the use of reading strategies by first and second-language readers of English, showed that successful readers using larger numbers of cognitive and metacognitive reading strategies, using a number of very important reading strategies (setting the purpose for reading, prediction, summarizing, questioning, use of text structural features, self-monitoring and so on) which learners were using to a greater extent to plan, control and evaluate their own understanding of text.

Yet another study involving Chinese students reported the use of three categories of strategies, global, support, and problem solving at a high-frequency level where high-proficiency students outperformed the intermediate and the low-proficiency ones in two categories of reading strategies (global and problem solving) but no statistically significant difference was found among the three categories of students when using support strategies (Zhang & Wu, 2009). There is an indisputable relationship between meta-cognitive awareness of reading strategies and their performance in reading test of successful readers as shown by Nezhad's 2006 study. These are a few examples of studies done in Asian contexts which far outnumber the few studies done in a similar field involving Portuguese L1 or FL speakers.

Thus the present study has been designed in order to fill the gap in this field, particularly in the Portuguese speaking context, and to further understand what takes place at the UEM with UEM

learners using authentic reading texts and other materials written in a foreign language, English, as well as to explore the complexity of EAL (English as an Additional Language) reading through qualitatively and quantitatively analysing the skills and strategies used by these students.

6.3 The Cognition and Metacognition Questionnaire – Overview

The cognition and metacognition questionnaire used in my study was adapted from two major sources: a statements on a reading strategies table in a questionnaire on ‘How you read in class at Oxford Brooks and how you used to read in China’ developed by Li and Errey (2008) and the Survey of Reading Strategies (SORS) based on the 10-12-6 reading strategies taxonomy by Sheorey and Mokhtari (2001). An analysis of the SORS revealed that some wording would be rather difficult for the FL readers in my context, i.e. the use of phrasal verbs that could potentially confuse the primary intention of the questionnaire which was to discover what skills and strategies the participants were using rather than serving as a language competence test. Also the SORS five-point Likert scale did not include a variable related to the possibility of readers not knowing whether they applied a given strategy or not – an additional point in Likert scale was thus added to the questionnaire. A crosscheck analysis with the table in Li and Errey (2008) showed that their statements matched the strategies in SORS and thus these were adapted to a more suitable table for my study. This process is explained in detail below.

6.3.1. Developing a questionnaire

A questionnaire to assess meta-awareness of reading strategies/skills was designed to collect the necessary data for this part of the study (see Annex D). The questionnaire was designed partly adapting data from a reading skills table used in a study by Li and Errey (2008). The statements reflecting reading skills/strategies use were reduced from 35 to 26 based on my understanding of the different types of strategies and the contents in the 10-12-6 strategy taxonomy (Sheorey & Mokhtari, 2001). Li and Errey (2008) divide reading strategies into cognitive and metacognitive, and subdivide them into i) academic support strategies/skills, ii) text comprehension strategies/skills, and iii) language focus skills/strategies). Some of the wording in the table was

altered and different lexical items used (...*by clues* to *using clues* in numbers 1 and 2; *look up* to *check* in 3; *overview* to *scan* in 15), and some clauses added to facilitate participants' comprehension of the questions (in statements 3 and 9, for example). The original table had a column for each setting of the study, China and Brooks University, which were transformed in the "Circle a number" column. Several of the rows in the original table were amalgamated (from 10-14 in the original to 10 and 12) to shorten the questionnaire and reduce the work and thinking load of the participants, and other rows (26-34) simply cut because of repetitive information, but without losing focus. Due to the need to assess participants' knowledge and self-awareness of metacognition, a section was added to source solutions and mechanisms, tools participants would use to solve reading problems.

Using data from the reading skills/strategies classifications and/or taxonomies by Rosenthine (1980), Munby (1980), Weir (1984), Mokhtari and Reichard (2004), and from Sheorey and Mokhtari's (2001) SORS³⁶, the questionnaire aimed to collect biodata from the participants as well as their views and reflections on their own reading strategy usage. In addition, the questionnaire included a section where the participants describe as best and as clearly as they can aspects related to the solution and/or mechanism/strategy they would resort to in order to solve any given reading problem in a given context. This part is neither in Li and Errey's (2008) model nor in that of Sheorey and Mokhtari (2001). This part of the questionnaire aimed to assess the participants' meta-awareness, i.e. to find out whether participants were consciously aware of their (conscious) use of reading skills and/or strategies to resolve comprehension problems when attempting to construe meaning and/or monitor their reading process.

Meta-awareness can be measured by an instrument called MARSİ, Metacognitive-Awareness-of-Reading-Strategies Inventory, which was developed to measure native English speakers' awareness and use of reading strategies while reading academic or school-related materials (Sheorey & Mokhtari, 2001). Neither MARSİ nor SORS were used in my questionnaire because the participants in my study are not native speakers or L2; they can be deemed to be L3 or FL speakers. Thus using MARSİ and/or SORS alone would be counterproductive because I needed to measure students who are non-native speakers of English, and at the same academic year in high school and at university. This is the reason for the development of the SORS but it makes it

³⁶ SORS, Survey of Reading Strategies.

unsuitable for my context if used alone. Following Sheorey and Mokhtari (2001:436) ‘two basic yet important revisions’ were made: ‘first, in an attempt to reduce some redundancy in the instrument, we incorporated two of the strategies originally used in MARSII (“I summarize what I read to reflect on important information in the text,” and “I discuss what I read with others to check my understanding”) into existing support strategies’. The consequence of the operated changes was the elimination of two items, reducing the instrument from 30 to 28 questions. One other change was the modification of the wording of some of the items in order to facilitate their comprehensibility by FL/ESL students. In the course of the validation phase, this instrument showed its efficiency in the production of consistent results relative to measuring the awareness or perceived use of reading strategies among the native and non-native speakers of English participants (Sheorey et al., 1999).

The SORS consists of 28 items (reflecting 10 metacognitive, 12 cognitive and 6 supply reading strategies) and uses a five-point Likert scale ranging from 1 (“I never or almost never do this”) to 5 (“I always or almost always do this”). Instructions for use include the asking the participants to read the statement of the instrument and circle the number that best suits his/her choice/decision. Also the tool indicates the frequency with which participants use the reading strategy implied in the statement. Sheorey and Mokhtari (2001) explain that ‘the higher the number, the more frequent the perceived use of the strategy concerned’ is, thus serving to classify the type of reader. While SORS measures the three broad categories of reading strategies, namely metacognitive strategies, cognitive strategies, and support strategies which my questionnaire aimed to measure, for the reasons outlined above, I decided to design a questionnaire that would best suit the FL readers in the study and serve to explore their claims regarding their own reading strategy usage.

As already mentioned (Chapter 4, section 4.3.2), typical reading strategies in L1 and L2 (use of the index and scanning the relevant paragraphs; use the index and/or contents and reading the relevant sections; skimming the whole or part of the text; reading carefully and taking notes) can often be confused or used interchangeably with what are sometimes referred to as skills. A skill, a generally accepted entity, is an acquired ability that operates largely subconsciously, whilst a strategy is a conscious procedure carried out to solve problems in the comprehension process, as Pang (2008) puts it (see Chapter 4.5.1). Hence, strategies, or rather metacognitive strategies,

being conscious means to which readers resort in order to monitor their own reading process, can be used to evaluate the effectiveness of their cognitive strategies.

As defined earlier, metacognition, metacognitive knowledge (also metacognitive awareness), first introduced by Flavell (1976), is defined as “one’s knowledge concerning one’s own cognitive processes and outcomes or anything related to them”, and further explanation refers to “the active monitoring and consequent regulation and orchestration of these processes in relation to the cognitive objects or data on which they bear, usually in the service of some concrete goal or objective” (Flavell, 1976: 232). Flavell (1977), and Flavell, Miller, and Miller (2002) point out that the development and improvement of metacognitive skills is a key to the success of the *formal operational stage* (in children older than eleven years) in Piaget’s Theory of Cognitive Development (in Flavell, Miller, and Miller, 2002), and that metacognition is generally fundamental in a variety of areas, such as oral skills, reading, writing, language acquisition, attention, memory, and social interactions. Metacognitive language and/or awareness also refers to what learners and readers (individuals) know about their own level of thinking involved in active control over the thought process used in learning situations. Essentially metacognition refers to the degree to which one is aware of his/her own plan to approach a learning task, monitoring comprehension and evaluating the progress towards the completion of a task (Wenden, 1991; Zhang, 2001; Chamot, 2005, and many other scholars researching cognitive and metacognitive reading strategies in EFL field).

According to Devine (1993), and Li and Errey (2008), such strategies include the conscious planning of how to approach the reading of a certain text, testing and revising ideas regarding to the text, or deciding whether the reading speed is adequate for processing a text according to the purpose and time availability. Such approaches or orientations are the learners' [or readers'] intentional plans for selecting and combining schema-based skills into routines. The questionnaire includes a section on metacognitive awareness to assess how consciously the reader uses them.

The 28 items in SORS (reflecting 10 metacognitive, 12 cognitive and 6 supply reading strategies) and the five-point Likert scale were taken into account. This research tool, which is based on the MARSI, was originally developed by Mokhtari and Richard, and to its design I have added an additional point (I don’t Know) to the Likert scale bringing the total to a 6-point

Likert scale tool. When designing the questionnaire all aspects inherent to the identification and classification of the different reading strategies and skills (see Chapter 2, section 2.2.1.1 and 2.2.1.2 for a detailed discussion on reading skills and strategies, and reading taxonomies; also see chapters 4 and 5) were taken into account. The different categories of reading strategies, namely metacognitive, cognitive and supply strategies were borne in mind when designing the questions for part II of the questionnaire. Also, the Likert scale in Sheorey and Mokhtari's SORS was used for the table of statements reflecting reading strategy use, and these statements were designed to reflect most of the metacognitive, cognitive and support strategies.

6.4 Reliability and Validity of Questionnaires

The validity of using a questionnaire as a research tool (also discussed in Chapter 4) has been widely discussed and accepted in the research community (see Naiman et al., 1978; O'Malley et al., 1985; Wenden, 1985; Ramirez, 1986; Oxford et al., 1987, and, more recently, works by Johnson, 1994; Presser et al., 2004; Coleman & Briggs, 2005; Saw & Ng, 2001; Sushil & Verma, 2010; and Cohen et al., 2011).

The power of the participant completing the questionnaire in terms of whether he or she chooses to complete it or not, and whether he/she gives unforeseen responses was mentioned in Chapter 4 (4.2.2 and 4.3.3) in terms of the 'empowerment' feature of this instrument. Also stressed was the importance of piloting the tool and systematically following sequential steps before and during the administration of the questionnaire to ensure its reliability and validity as far as possible.

The steps to be followed in planning and designing a questionnaire are also described in detail in Chapter 4 (4.2.2), from the decision on what to elicit from the questionnaire, the precise wording (simple, general and or specific), clarity in terms of measuring the participants' responses and the data obtained, to the avoidance of ambiguity, imprecision and assumptions (Cohen et al., 2011), as well as the time participants should spend completing it, and doing a pilot sample to check reliability and validity (Johnson, 1994; Coleman & Briggs, 2005; Cohen et al., 2011).

Chapter 4 also listed the essential aspects recommended by Johnson (1994) to take into account in order to make the questionnaire reliable and effective as a research tool (see 4.2.2).

As was noted in Chapter 4, even with following all the steps to ensure the clarity of all questions for participants, a number of them may either not complete or return the questionnaire, or may give answers and/or data that may present them in a better light (Jobe & Mingay, 1989). This ‘*empowerment*’ feature does not hinder the use of the questionnaire as an effective tool for research; its effectiveness comes with how such a tool is validated. Its validation depends on its reliability (Saw, Ng, 2001; Presser, S. et al., 2004; Sushil & Verma, 2010) and, given the different types of questionnaire used in different contexts, every questionnaire should undergo its own validation process (see Chapter 4).

6.5 Procedures

The participants were handed the adapted questionnaire as soon as they had finished the IELTS reading test and were given a day or two to complete it. The researcher arranged to meet with the participants in a place and time suitable for the majority of them. Prior to this action, and similar to the steps taken to administer the IELTS reading comprehension test and the Think Alouds (TAMs), the aims of the study and the specific aim of the research and the research tool were explained to the participants. The questionnaires were also piloted and participants’ doubts and confusions addressed and clarified. The participants were alerted to the fact that no monetary or material compensation would result from their participation and that they were free to leave the study at any time. They were however reminded of the fact that credits would be awarded to their final marks for time spent on this research project. Letters of consent signed at the beginning of the process were valid for all the stages of the study as had been previously explained to all participants.

The completed questionnaires were collected a day or two days later and the participants were then advised to remain available for the third stage of the study, the administration of the TAMs at a later stage.

6.6 The Research population

Participants were all those who sat the reading IELTS test during STUDY PHASE described in Chapter 5. Additional details of the research population can be found in Chapters 1 and 3.

6.7 Findings and analysis

In order to facilitate the reading of the results of this stage of the research, the findings were plotted onto tables to show the total number of statements circled per respondent per level of reading strategy classification as well as the grand total. The tables (19 – 22) below show these findings in a more systematized manner for clearer understanding of the numbers and strategy usage claims.

6.7.1. Findings from Questionnaire Part II: Strategies used in Reading Texts

The questionnaire administered to participants had a Part I where they had to fill in their biodata. The issues related to the study were concentrated in Part II. This part of the questionnaire aimed at assessing the degree of awareness and perception participants had of their own reading and reading strategy usage. Essentially I aimed to elicit the claims made by participants regarding their self-reported use of reading strategies while reading and when construing meaning, as well as any other factors involved in the reading process.

The results were plotted onto tables to show the total number of statements circled per respondent per level of reading strategy classification. These are in a systematized manner for clearer understanding of the numbers and strategy usage claims (See Tables 18 and 19). Results from Part II of the questionnaire revealed that from the 28 participants who had been given the questionnaire, only 20 handed them back. The other 8 participants did not state any reasons for not handing back the questionnaires. No attempt was made to find out the reason behind this

given the participants' prerogative to quit at any time. Results are plotted in table 18 and this shows the total numbers (highlighted) that represent the sum total of choices circled by participants per statement; the significance is explained later. Evidence revealed a majority of the choices around points 3-5 of the Likert scale, i.e. the most used strategies have the highest number of frequency hits. The choices under points 1 and 2 in the Likert scale (*I never do that* and *I usually don't do that*) should not be taken lightly.

Table 18 Frequency of reading strategy purportedly used per participant

Code of Participant		HOW TRUE? TOTAL statements circled/crossed					
		1= I never do that.	2= I usually do not do that.	3= I do that sometimes, but not always	4=I usually do that.	5=I always do that.	6=I don't Know
001		0	3	5	11	6	0
002		7	6	7	5	0	0
003		1	2	8	5	9	1
004		2	9	9	4	0	0
005		6	2	1	7	9	0
006							
007							
008		5	5	6	4	2	4
009							
010		2	3	10	5	5	0
011		5	0	7	2	12	0
012		2	2	9	5	8	0
013		5	4	6	5	5	0
014							
015		0	1	8	9	7	0
016							
017		6	0	16	0	4	0
018							

019							
020		2	1	7	6	8	1
021							
022		2	3	4	9	9	0
023		5	0	8	3	10	0
024		1	1	9	12	1	1
025		4	4	4	5	6	3
026		2	2	10	7	5	0
027		4	4	6	5	3	4
028		0	1	11	9	4	0
Total		61	53	149	129	113	11

In general, results have shown a trend that is in consonance with good readers (Pang, 2008) and this is revealed by the frequency hits for statements 1-20 where very low hits are around points 1, 2 and 6 of the Likert scale; the highest numbers are around points 3, 4 and 5 in the Likert scale. Results have also revealed that almost none of the participants chose points 1 (*I never do that*) and 2 (*I usually do not that*) in the Likert scale for statements 21-26, where there is only one *frequency hit* for statements 21, 22 and 24 for point 1 in the Likert scale and 1, 3 and 2 frequency hits for point 2 in the Likert scale for statements 22, 23 and 24 respectively: a positive sign indeed given that good L1 and even FL readers must do what is prescribed in the said statements reflecting reading strategy (See Pang, 2008). Another positive sign is the very low degree of uncertainty regarding what they would do or claim to do when reading as shown by the choices in the added point 6 in the Likert scale (*I don't know*), i.e. almost insignificant with only 11 hits when compared to hit choices in points 3-5 in the Likert scale. It should be noted here that, without the 'sixth' point added to the 5-point Likert scale in SORS, it would have been impossible to find out about this variable.

Good readers as asserted by Pang (2008) use graphics like charts, figures, and punctuation as cues to help with text understanding, and a table, a chart or bullet as cues to summarize the structure of the text. This behaviour was somewhat contrary with my participants where the claims regarding the choices for statements 15 (= *I use graphics like charts, figures, punctuation to help me understand the text*) and 17 (= *I use a table, a chart or bullet to summarize the structure of the text*) are surprising – one would have expected readers to at least claim to use them. Odd it may have been, one would not however discount the possibility of misinterpretation of the statements reflecting reading given their low competency of the foreign language and may have thought that they were asked whether they made and/or drew graphs, charts or diagrams themselves to help with their understanding of text and the structure of the text. One other unexpected choice made by participants is that regarding statement 7 (*I ignore difficult sentence(s) and continue reading*), where quite a few participants claimed to not ignore difficult parts of the text (hit choices around point 1 in the Likert scale, ***I never do that***). It is common for good readers to use context and or co-text to solve problems rather than spent much needed time resolving difficult sentences, i.e. trying to find out the meaning of the sentence and not of a hard word and or lexical item. The results also confirm a long standing observation where readers tend to translate words into their mother tongue or the lingua franca, i.e. Portuguese: quite a significantly high level of frequency hits revolved around point 3 in the Likert scale (***I do that sometimes***) for statement 13 (*I translate words into Portuguese while reading*). In Table 19 below the dots refer to the times a choice was selected by the participants. I have termed this ***frequency hits*** per choice (1-6). Frequency hits show the degree of claims per strategy purportedly used by the participants and to which they claim to resort when resolving a particular reading problem. This table provides a detailed picture of participants' claims

regarding their use of reading strategies. The claims as reflected in their totality above (total in Table 18) are shown per statement and in their respective Likert scale. Some of the frequency hits have been boxed to reflect a specific point of interest which is matched to one or more factors in the research on reading comprehension and strategy usage in the field. It is possible to provisionally note that frequency hits in the Likert scale columns seem to match strategies associated with good readers, although this cannot be stated with certainty at this stage. There is a need to assert the fact that the (claimed) effective use of reading strategies can be checked against actual strategy use in think-aloud protocols (see Chapter 7). What can be asserted with more certainty is that the low frequency hits of the box around point 1 of the Likert scale *'I never do that'* (statements 1-3) shows that participants claim to be conscious of using text, context and co-text to assist them in meaning construction, and this is a positive sign since it is a practice adopted by high ability readers in L1 and L2/ESL. Moreover, the box around point 1 in the Likert scale (statements 15-17) shows a rather different picture: here a substantial number of participants show a lack of use of a cluster of strategies associated with the successful reading of academic texts, i.e. the ability to use multimodal or visual elements to assist with the interpretation of texts, perhaps labelling them as poor or low ability readers.

Table 19. Overall total of frequency hits per statement reflecting reading strategy use

Code of statement	Statement reflecting reading strategy usage	HOW TRUE? TOTAL statements circled/crossed					
		1= I never do that.	2= I usually do not do that.	3= I do that sometimes, but not always	4=I usually do that.	5=I always do that.	6=I don't Know!
1	I guess meanings of new words using context. MET9	.	...	...	.....	...

2	I guess meanings of new words using clues from word root or affixation. COG12	.		.....	.....	..
3	I assess the need to check the meaning in a dictionary or to ignore words that I don't know and continue reading. COG9	..	.	.....	...	...
4	I find words with similar meaning to replace [difficult] words to help me understand the text. SUP3		....	....	.....	....
5	I identify key words/expressions used by the author to organize text MET4.		.	...	.....	...	..
6	I read difficult sentence (s) repeatedly until I understand then I continue reading the rest of the text. COG11	....	...	.	.....	.....
7	I ignore difficult sentence (s) and continue reading. MET5	.....	...	.....		.	.
8	I analyse the grammatical structure of a difficult sentence to understand the message. COG10		...	.....	....	...	.
9	I make note-cards or files after reading a text to remember/revise details about the text. SUP3/SRS	...	..	.....	...	.....
10	I take notes while reading. SUP1	.		.....	...	.....
11	I highlight/underline important sentences/parts of the text while reading. SUP2			...	...	.....
12	I say the words out loud or pronounce them in my mind while reading. COG2	...		.....	..	.....
13	I translate words into Portuguese while reading. SRS	...	...	.....	.	.
14	I scan the text for purpose before reading for details .MET2/MRS	...	...	.....	.....	..
15	I use graphics like charts, figures, punctuation to help me understand the	.....	..	.....	.		.

	text. MET8						
16	I recognize the structure or organization of a text. MET4	.	..	..	....	....	..
17	I use a table, a chart or bullet to summarize the structure of the text MET6.	.....	....	....	.	.	..
18	I use key words or topic sentences to make predictions. MET9+10/MRS	..	..	.....	.....	...	.
19	I make up imaginary scenes or conjure scenarios with words while reading. COG8	..	.....	.....	.....	.	.
20	I read sentence by sentence to understand a paragraph. COG3	.....	...	.....	..	...	.
21	I skim the text to get a general idea and scan for specific details while reading to comprehend a text.SUP5	.		....	.....	.....
22	I use prior knowledge to understand new information COG1.	.	.	.....	.....	....
23	I set a goal/purpose before reading a text MET1.		...	....	.....	....	.
24	I vary my reading approach/style with each text and according to goal or purpose.COG5	.	..	.	.....	.....	.
25	I reflect upon what has been learnt from the text and apply results critically. COG7			.....	.....	.....
26	I identify my weakness to improve reading ability MRS			...	.....	.....

The fact that a large number of participants claimed never to use text features such as charts, figures (multimodal elements) and punctuation (syntactic parsing) to help them understand is surprising, given that these are listed as the dimensions and characteristics of a

good reader (Pang, 2008). Another interesting finding is reflected in the box around statements 21-26, which shows that almost all participants are conscious of their reading processes and regulate these. In addition, there are two horizontal bands across all scales highlighted in the table (statements 9 and 12), which reflect a picture long asserted for L1 readers at their early stage of acquisition of reading ability and in some readers at secondary school. This aspect is discussed further. The data revealed here were also used to rate the most used and least used strategies by FL learners.

In order to rank and determine the most and least purportedly used reading strategies I have grouped and added the frequency hits for each category and found a mean. To show a positive trend, i.e. in consonance with behaviour of good readers, statements in points 2 to 5 separated from 1 and 3 in the Likert scale, which show grounds for a negative trend classification; here participants claim to never do a certain action - which is known to be a dimension and or a characteristic of a good reader. The mean showed that the most frequently self-reported sequence of reading strategies is reflected in numbers 26 (MRS³⁷ - identify my weakness to improve reading ability), 25 (COG³⁸9 – evaluating what is read), 2 (COG12- guessing meaning/MET³⁹7- using context clues), 21 (MET2 – previewing text before reading), and 11 (SUP2 – underlining information in text) , whereas numbers 20 (COG3- reading slowly and carefully/COG5- adjusting reading rate), 17 (MET8 – using typographical aids in summarising), 7 (COG4), 15 (MET6 – using visual or multimodal text features) and 16 (MET4 – noting text structure) are the least used.

³⁷ The term MRS refers to a classification category of reading strategies designated by as Metacognition Reading Strategy (Sheorey & Mokhtari, 2001, and reflects metacognitive knowledge and or metacognitive awareness (Flavell, 1976; Wenden, 1991; Zhang, 2001; and Chamot, 2005).

³⁸ COG stands for Cognitive Reading Strategy (Sheorey and Mokhtari, 2001).

³⁹ MET stands for Metacognitive Reading Strategy (Sheorey and Mokhtari,2001).

Table 20 Rank of statements reflecting claim of reading strategy usage (from top to bottom)

Rank	code/name	strategy/ statement reflecting reading strategy usage
1	(26)MRS ↑F	- I identify my weakness to improve reading ability
2	(25) COG9↑F	- evaluating what is read
3	(2)COG12/MET7↑F	- guessing meaning/- using context – clues
4	(21)MRS↑F	- I skim the text to get a general idea and scan for specific details while reading to comprehend a text
5	(11)SUP2↑F	- underlining information in text
6	(22)COG1↑F	- using prior knowledge
7	(12)COG2↑F	- reading aloud when text[words] become hard
8	(3)MET5/COG9↑F	- determining what to read /- evaluating what is read
9	(5)MET4↑F	- noting text characteristics
10	(23)MET1↑F	- setting purpose for reading
11	(24)MRS/ MET5/COG9	- I vary my reading approach/style with each text and according to goal or purpose. OR a combination of -determining what to read/ - evaluating what is read.
12	(1)COG12	- guessing meaning of unknown words
13	(8)MET6/COG7/SUP3	- using text features/-using context clues/-using reference
14	(18)MET9	- predicting or guessing text meaning
15	(4)COG10	- resolving conflicting information
16	(9)SUP1/SUP4	- taking notes while reading/-paraphrasing for better understanding
17	(10)SUP1	- taking notes while reading
18	(13)SRS ⁴⁰	- I translate words into Portuguese while reading

⁴⁰ SRS – support reading strategies discussed in Karbalee Karan (2012:32) who borrows the term subscale from different reading taxonomies to mean academic support strategies subscale or skills in Weir's and Mumby's taxonomies: also 'global strategies subscale' and 'problem solving subscale' in Sheorey and Baboczky (2008) and Zhang and Wu (2009). SRS also *supply strategies* or *support strategies* (Jimenez at al. 1995, 1996) where they make

19	<u>(14)MET2</u>	- <u>previewing the text before reading</u>
20	<u>(6)SUP5/COG11</u>	- <u>going back and forth in the text/-re-reading for better understanding</u>
21	<u>(19)COG8/MET9</u>	- <u>visualizing information read/-predicting or guessing text[words] meanings</u>
22	<u>(20)COG3/COG5↓F</u>	- <u>reading slowly and carefully/-adjusting reading rate).</u>
23	<u>(17)MET8 ↓F</u>	- <u>using typographical aids</u>
24	<u>(7)COG4 ↓F</u>	- <u>trying to stay focused on reading</u>
25	<u>(15)(MET6↓F</u>	- <u>using text features)</u>
26	<u>(16)MET4↓F</u>	- <u>noting text characteristics).</u>

↓F (Low Frequency); ↑F (High Frequency)

However, the picture is so far inconclusive and can perhaps be further comprehended with combined analysis of the total frequency hits. The combination which adds the total frequency hits of each category of reading strategies (cognitive, metacognitive and support), and a mean calculated, has helped to more clearly rank the categories of reading strategies. The mean for each category of reading strategy (Cognitive, Metacognitive and Support or Supply) as shown below is a clear indication of the position of each category. Metacognitive Reading Strategies (MRS) and Support Reading Strategies (SRS) are also used to represent metacognitive and support reading strategies shown by means of MET and SUP (Sheorey & Mokhtari, 2001).

Table 21 Rank by group of reading strategies

Type of strategy	Frequency hits	Mean
MRS/MET	21+19+17+11+8+12+16+16+17+20 = 157	15.7
SRS/SUP	19+16+20+19+16+18 = 108	18.0
COG	19+18+15+18+17+17+14+20+18+20= 176	17.6

reference to proficient bilingual and biliterate readers using supply strategies such as code mixing, translation, use of cognates while reading a text - believed to be, perhaps, unique and particularly useful for reading in a second language (see Chapter 2, section 2.2.1.2)

The data from Table 21 provide grounds to distinguish the following rank order: first MRS, followed by COG, and lastly the SRS. The rank of reading strategies grouping does not differ much from the individual rank in Table 20, where 5 of the top 10 reading strategies are MRS or metacognitive reading strategies, 4 are cognitive reading strategies, and only one is classified as a support reading strategy. These findings show a different picture to that of L1 and ESL readers but sets the grounds to advance a description of what type of readers are the FL learners in the multilingual context of Mozambique; Sheorey and Mokhtari's 2001 study shows that the top five reading strategies for this kind of reader are all cognitive reading strategies - only one (L1) is a metacognitive strategy. Since the participants were ESL readers, a group of people with some similarities to L2 or FL learners/readers, I would have expected them to have a similar line of top reading strategies. However, and perhaps surprisingly, all top of the five reading strategies for this group were cognitive reading strategies (see Table 22 below).

Due to the nature of the statements to which participants were to respond (*I identify my weakness to improve reading ability: I skim the text to get a general idea and scan for specific details while reading to comprehend a text; I vary my reading approach/style with each text and according to goal or purpose*) for instance, I used the general term MRS in Sheorey and Mokhtari's taxonomy (Table 1:438) - Metacognition Reading Strategy - to classify them. This decision finds support in Flavell's 1976 definition of metacognition and/or metacognitive knowledge (also metacognitive awareness), which sees this concept as "one's knowledge concerning one's own cognitive processes and outcomes or anything related to them" and "the active monitoring and consequent regulation and orchestration of these processes in relation to the cognitive objects or data on which they bear, usually in the service of some concrete goal or objective" (Flavell, 1976: 232). Further basis for the decision is found in Wenden (1991), Zhang (2001) and Chamot (2005), who posit that metacognitive language and/or awareness refers equally to what learners and readers (individuals) know about their level of thinking involved in active control over the thought process they use in learning situations, i.e. in this case reading, and essentially referring to the degree one is aware of his/her own plan to approach a reading/learning task, monitor comprehension, and evaluate the progress towards the completion of a task. The same basis was used to classify other statements reflecting reading strategy usage as SRS, support reading strategy (Jimenez at al., 1995, 1996; Sheorey & Baboczky, 2008; Karbalaee, 2013).

The sequence above (using the 10-12-6 Sheorey and Mokhtari's reading taxonomy) depicts a rather different picture from the findings in Sheorey and Mokhtari's 2001 study. This is discussed below in section 6.7. It should be noted here that the classification of the statements reflecting a reading strategy using the 10-12-6 taxonomy (Sheorey & Mokhtari, 2001) has not been easy for some of the specifics of what or how reading is perceived and what strategies are purportedly used by students in a multilingual context. Some of the statements transverse the sometime very clear yet fine line between the different strategies onto more than just one type classified in Sheorey and Mokhtari's (2001) taxonomy⁴¹. Some of these aspects are explored in the discussion below (see 6.8) when I compare my study results with those in Sheorey and Mokhtari (2001).

6.7.2. Findings from Questionnaire Part III: Problem Solving

The questionnaire also sought to find out the awareness participants had about their actual use of reading skills and strategies by requiring them to answer three questions designed to reveal their effective metacognition knowledge (awareness and problem solving) and perhaps a depiction of the nature of a multilingual FL reader in my context. The results of this part of the questionnaire (Part III) are presented below, where some of the extracts have been cited in the words of the participants.

1. While reading a text in English you come across several words and expressions that look like (form) and sound like Portuguese and you think these mean the same as in Portuguese. How do you best confirm the meaning of such words/expressions?

To answer this question FFN001 wrote, *'Firstly, [...] there are some words in Portuguese that shared the same etymology with English...borrowed the word from a third language...Latin. [...] so when I come across.... I always look them up in a (bilingual) dictionary'*. All the other

⁴¹ See chapters 2, 4 and 5 for further discussion on reading skills and strategies.

participants claimed to find out or look up the words in a dictionary or other source, for example, *'I'll considered them borrowed words...and according to my decision I'll try to understand their meaning'* (SMA002). Some participants (CMH003, SVU005, GCE011, NVN012, DLM020, FCM023, JBM025, and JMM028) mentioned the term *false friends* and one the idea of phrasal verbs (EMA010) and reported resorting to a dictionary to adequately confirm the meaning. The use of context to guess the meaning associated with the use of a dictionary (SMA002, PPT008, ARM022, FCM023, YTD024, JBM025, BSG027, JMM028), the internet (YTD024, DIT026), and glossaries and encyclopaedias (DIT026) was mentioned by quite a few participants as stated by FCM023: *'...to confirm the meaning of such words/expressions, I will distinguish them in the context because is where I find the meaning of... also make use of dictionary to help me with ...'*; GSB015 wrote that he would *'...try to understand every word...underline all ...to check them later....I look up ... and write in my exercise book with its Portuguese translation and add it to my vocabulary list...'* Along the same lines JBM025 mentioned that *'it is always better to underline any strange word....and after when I'm finished with reading I check in the dictionary to avoid being misled'*. MDD017 wrote that *'...confirm the meaning in a dictionary...if I don't have any dictionary at reach... I analyse the whole structure, from its syntactic construction to semantic...the real semantic meaning of the words or expressions flow fluently'*. In summing up these responses it can be inferred that almost all the participants showed some indication of an awareness of the use of reference materials, context and prior knowledge, cognates, and syntactic and semantic parsing, and seem to consciously (purportedly) use them in their daily reading process to resolve several reading problems. There is a further aspect worthy of noting: participants used the term 'borrowed' which is a concept in Translation studies, thus linking their reading ability to their field of study, and 'false friends' and 'phrasal verbs' showing knowledge of grammar and syntax linked to semantics (functional and generative grammar). This ability is associated with the capacity to automatically and rapidly recognise word(s) and associate with its/their meaning and context (Booth et al., 1999; Just & Carpenter, 1987; Perfetti, 1985; Pressley, 1998; Nassaji, 2003) and the ability to execute automatic syntactic parsing and semantic proposition formation while reading a text (Chen, 1998; Fraser, 2004; Liu & Bever, 2002; Lu, 1999). a highly competent or fluent reader needs to have a reasonable vocabulary bank in the target language (10,000 to 100,000 words) (Alderson, 2000; Barnett, 1986; Carver, 1993; Grabe & Stoller, 2002), and the self-reported use of glossaries, encyclopaedias and the Internet

to find and confirm meanings of certain lexical items or grammar referencing indicates the attitude of a good reader. Due to the type of participants (translation students), this aspect could also be seen as a new set of localized reading strategies of FL bilingual readers with a repertoire of native languages⁴².

2. If given two different texts discussing the same topic and asked to sum up the main points, how do you go about reading each one of the texts to make a valid and good summary? Describe as best as you can.

It was evident from the responses to this question that the idea of reading the texts once, or more than once, at different moments, but ‘...read with criticism’ (MDD017) was seen as essential, given that ‘[to make] a good summary is a big challenge’ (JBM025). Other strategies included a series of steps to construe meaning and extract the main points for summarising: i) highlight relevant/key words, ideas, the author’s idea/view (CMH003, GCE011, GSB015), ii) ‘*divide texts in parts*’ (MRM004), iii) ‘schematise main ideas ... and identify the composition of the text – introduction, development and conclusion’(SVU005) and then iv) ‘*condensate*’(FFN00) and write a summary, v) ‘more than once’ (EMA010), vi) ‘with convergent and divergent ideas’ (CMH003).

With reference to the writing of the summaries, the use of **conjunctions** to join sentences and ideas was mentioned by FFN001, GCE011, and using a ‘different language style but keeping the same meaning (message)’ (MRM004) and ‘...in line with the original texts ...do my best to have a final text as short as possible’ (JBM025). Expressions associated with reading skills/strategies were mentioned by BSG027 and ACD014, who wrote that ‘I first **skim** the text to get the general idea, then I take important ideas or points and use them as a main point, I mean I compare them to see how relevant are they, and I finally list them to have a summary of both texts’, and ‘I will

⁴² Meaning participants had a range of native languages across them and spoke them with a certain degree of fluency (L1) but the researcher was not sure whether they could read this repertoire of native languages and transfer the appropriate skills to the target language given the lack of formal instruction in the said languages (Bantu languages).

scan for specific information and highlight the main ideas' (FCM023, BSG027). A summary that is 'accurate, appropriate and that avoids ambiguity (SVU005)' was also mentioned by DLM020.

In summary I could say that most participants showed a regulated use of skim and scan strategies, recognise or take note of text features and summarizing skills, i.e. are conscious of reading strategies/skills and show the ability to readily access a variety of deliberate strategies (Hopkins & Mackay, 1997; Long et al., 1996; Yang & Zhang, 2002) to engage with, and construe meaning from, the text. Further the answers above showed the participants to have a certain degree of competence in monitoring their own comprehension process (e.g., Karen & Evans, 1993; Yang & Zhang, 2002) competence in evaluating and regulating strategy use to achieve maximum comprehension (e.g., Gregory, 1994; Karen & Evans, 1993; Long & Chong, 2001). Overall, they showed a good and strategic scheme for summarizing (adequate steps) a text and using techniques to draw comparisons. All of these strategies reported by the participants do not correlate with the IELTS RCT results as discussed in Chapter 5. Worthy of noting is that the conclusions resulted from claims made by the participants and not actually from their effective use of reading comprehension strategies in a real reading situation.

3. You are asked to read a large book on a topic relevant to your field of study to find out about the main idea and specific information on the theories described and conclusions reached by the author. How do you best go about reading this book? Describe as best as you can the steps you would follow (you may use *bullets* or numbers).

This question was essentially to try and find out the extent of participants' awareness and use of an index, pages of content and/or any other text device/features/structure that signals the sections, chapters, etc. in the book. The question also sought to find out participants' capability to link vocabulary items, 'theories' and 'conclusions' to matching sections, chapters and/or the use of a glossary or any other supporting device. The answers showed a variety of descriptions of the paths participants would use to get to the main idea and to the specific information offered by the book.

The findings showed a variety of ‘steps’ participants’ saw themselves taking to achieve this, from reading the book several times to making notes/highlighting the main idea(s) and summing these up to a well-conceived system which entailing four to six steps:, i) identifying the index, table of contents, sections, chapters and or/use of glossaries, ii) reading the introduction and conclusions and/or the identified sections and chapters that are relevant to the information being sought (skimming and scanning), iii) underlining the most prominent parts/information, iv) re-reading underlined parts, v) making sure of/checking the concepts/opinions and conclusions offered by author, and vi) drawing their own conclusions about the information they have just read.

One of the most elucidating responses written by one of the participants:

Although reading may seem(s) to be interesting, it is sometimes a big headache when it comes to reading big texts. Whenever I am obliged to read large books I apply the reading strategies I have learned in Study Skills. 1. I skim de main topic of the whole book by reading the introduction and the conclusions (if available,), 2. I highlight the key chapters (or paragraphs) and 3. I summarize the content of the book. (JBM025).

Most participants (FFN001, CMH003, GSB015, FCM023, DIT026, BSG027, NVN012 and ARM022 mentioned writing a summary in the end to provide a conclusion; SUV005 mentioned the author’s references- the idea of checking bibliography and other sources, and MRM004, with a rather confusing and unclear pathway, reported following most of the steps described above. One participant (DLM020) said he/she would follow the steps described above but emphasis would be on asking himself/herself questions o about the purpose for reading the book and find out what he/she already knew about the topic (familiarity), in addition to the use of graphic display in the text to aid with understanding the main idea(s) and to use as reference later.

However, a small number of the participants provided a rather cautious description of the process: *‘I read, I highlight the important parts and take notes of most important ideas, make a summary with the main ideas of the author, the description of these ideas, and the conclusions of these ideas’* (YTD024). Another participant wrote, *‘As I said before* (a reference to his/her answer given for question 2 of Part III of the questionnaire, I presume) *my underlining principle*

of reading is that first I read the book twice. Then, highlight the main ideas. Finally, I write these ideas using my own words.’ Similarly inquisitive is the answer given by ACD014: ‘First, I get the idea of the text then I use bullets (reference to part of question in the questionnaire) for better comprehension of the text, and to conclude I take some notes in order to understand the (job) goal of the author and organize them’. GCE011 on the other hand, wrote that he/she would read the text as many times as possible to ‘make sure I understood “perfectly” the topic, then underline the topic sentences and their supporting sentences in each paragraph, after that I sum it up.’ EMA010’s is an example of a rather peculiar and inconclusive answer to approaching reading: ‘1. First I have to sum it up, 2. From the sum up or the new texts I’ll have elaborated I pick up the main ideas, 3. Getting the main ideas of the sentences’. This participant had a result of 27.5% in the IELTS, despite claiming to use the sorts of strategies good readers use to construe meaning (frequency hits around columns 3-5).

Finally, MPT008 clearly described the kind of clever and ‘cunning’ strategy one would apply to reading when she/he writes ‘I have to confess that most of the times I use a kind of intellectual cunning which means I don’t go like reading the whole book but I look or go for the pages that the information I want is discussed’. Highly advanced readers do this and with texts that discuss very familiar topics, for example topics related to their field of study or expertise.

It is possible at this stage to present a reading strategy picture in which the participants appeared to show the use of sophisticated manoeuvring to tackle a large book and showed the strategy use of high ability readers, both acquired and learned in formal instruction (study skills). However, given the few data the researcher had, it was not possible to determine if this sophisticated manoeuvring could have been acquired as a result of formal L1 (L2 or Lingua franca) education or during their training in the target FL, English. Participants, however, showed themselves to be very intelligent in their approach to reading a large book; reminiscent of formal instruction is the use of the lexical item ‘obliged’ which is what happens in tertiary education (lectures do oblige students to read large volumes).

The section below presents a discussion of these and the other findings documented in earlier sections of the chapter. In the course of this discussion I attempt to correlate the participants’ claimed use and awareness of reading comprehension strategies shown in their responses in the TAM questionnaire with their results in the RCT. In addition, results are plotted in a table to

correlate them more accurately with the strands that were used in the RCT, and with the dimensions and characteristics of good readers.

6.8 Discussion

Research questions (a) what skills/strategies do learners and users of English in an EAP-ESP-EFL context resort to when constructing meaning from text? (b) to what extent are reading skills/strategies used effectively?, and (c) to what extent are these learners/users aware of their own use of such reading skills/strategies? have been partially answered, but there remains a major hurdle, that of shedding light on the field of text comprehension and meaning construction in a specific multilingual context involving Portuguese speakers, and so as to narrow the gap between what is already clear, i.e. the two dimensions in Bernhardt's 2005 compensatory model of reading (see chapter 1) and the third dimension, which represents the '50% unexplained variance' claimed by Bernhardt (2005). Bernhardt argues that the aspects of comprehension strategies, engagement, content and domain knowledge, interest, motivation, etc., are some but not all of the variables that need to be understood or taken into account when identifying and assessing reading strategies/skills in a multilingual context. Her expansion on the 2005 work shows the interaction between the dimensions and I hope in this part of the study to go some way towards providing an explanation of some of the issues pertaining to comprehension strategies, and how their engagement and awareness regarding usage by readers in a FL context (feeding the third dimension and not only) such as that of UEM may be deconstructed within the framework of the present study. Here there is of course the need to understand what role reading strategies and skills play within the process of meaning construction in a context like mine since, as warned by Bernhardt (2011:38) 'literacy level of readers has a profound impact on what they can accomplish. Readers who struggle in their first language will probably also struggle in their second. Readers who have an array of strategies in their arsenal do not need to be re-taught those strategies.'

My discussion starts by revisiting the 2001 Sheorey and Mokhtari comparative study and exploring the questions discussed in it. It is crucial to the present study to recall the Sheorey and

Mokhtari's 2001 comparative study, which dealt with the differences in metacognitive awareness of reading strategies among native and non-native readers, because it deals with both L1 native speakers and ESL non-native speakers living and studying within the same tertiary education environment/context. After analysing their study I considered it to be adequate for use in my study as a basis for comparative purposes, i.e. the type of reading strategies used and the effective awareness concerning use of reading strategies, my study being the first of its kind in Mozambique involving FL non-native speakers, yet in a multilingual context. Thus, it is essential to mention the Sheorey and Mokhtari's 2001 study in order to compare their findings with the findings from my study, the participants in both studies being i) non-native readers of English and ii) studying at university and iii) foreign language users. In addition Sheorey and Mokhtari's 2001 study aimed to find answers to three questions involving issues that in part resemble my research questions, namely, the issue of participant perception in their question: 'Are there any differences between ESL and US students in their perceived strategy use while reading academic materials?' They also included a gender dimension in their second question: 'Are there any differences between male and female ESL and US students, respectively, in their perceived strategy use while reading academic materials? While it can be argued that this question posed by Sheorey and Mokhtari (2001) looking specifically at issues to do with gender differences regarding students' perceived reading strategies is important, it is of secondary interest to my study. Sheorey and Mokhtari's (2001) third question: 'Is there a relationship between reported strategy use and self-rated reading ability?' is not discussed because I did not deal with participants' self-rating of their reading processes or abilities in my study.

Using SORS, Sheorey and Mokhtari (2001) revealed a 'moderate overall use of reading strategies' and the 'observed difference in the overall means of the two groups' was statistically significant ($t [298] = -3.08$; $p < 0.05$). For the ESL students, 10 of the 28 strategies (35%) fell in the high usage group (mean of 3.5 or above), while the remaining 18 strategies (64%) had means between 2.50 and 3.49, indicating medium usage of these strategies. None of the strategies in their survey was reported to be used with low frequency (mean values below 2.4), whereas for the US students in their study, eight strategies (29%) fell in the high usage category (mean of 3.50 or higher), 18 strategies (64%) fell in the medium usage group, and the remaining two strategies (7%) had means below 2.50. The study summarized some of the main conclusions regarding the comparisons between the US and ESL students:

1. The major (statistically significant) distinction between US and ESL students' reported usage of strategies is in the category of support reading strategies (SRS), the ESL group mean for SRS being considerably higher than the US group mean for the same category ($p < 0.002$).
2. Both US and ESL learners attribute the same order of importance, irrespective of their reading ability or gender, to cognitive, metacognitive, and support strategies when reading academic texts.
3. Both US and ESL high-reading-ability students show comparable degrees of higher reported usage for metacognitive and cognitive reading strategies than lower-reading-ability students in the respective groups.
4. However, while US high-reading-ability students seem to consider support reading strategies to be relatively more valuable than low-reading-ability US students, ESL students attribute high value to support reading strategies, regardless of their reading ability level.
5. In the US group, which included comparable numbers of male and female students, the females show greater awareness of reading strategies (that is, report higher frequency of usage), mirroring the differentiation between higher and lower-reading-ability students in this sample of US learners. This gender effect is not reflected in the ESL sample, perhaps because in this group the males outnumbered females by 50% (male $n=92$ vs. female $n=60$).

In order to discuss and compare my findings with the aspects summarized above and in the table below, I have plotted Sheorey and Mokthari's (2001) findings alongside the findings for the FL participants in my study. The table below depicts an adaptation of Table 2 in Sheorey & Mokhtari (2001:439), which presents results concerning all 28 reading strategies reported by US and ESL students in their study. The table shows the top five and bottom five individual reading strategy preferences of ESL and US students arranged in descending order by their means (that is, the most favoured or most often used, to least favoured or least used strategies). I have analysed my findings and have used a similar trend to identify the top five and bottom five reading strategies claimed to be most and least used by the participants and these are shown on the table below.

Table 22. Reported reading strategies used most and least by US and ESL students and FL students⁴³

US students (n=150)	ESL students (n=152)	FL students (n=28)
Name Strategy	Name Strategy	Name Strategy
To five		
COG4 Trying to stay focused on reading	COG11 Re-reading for better understanding	<i>MRS</i> ⁴⁴ Identify my weakness to improve reading ability
COG6 Paying close attention to reading	COG6 Paying close attention to reading	COG9 Evaluating what is read
MET8 Using typographical aids (e.g. italics)	COG4 Trying to stay focused on reading	COG12 Guessing meaning of unknown words/MET7- using context clues
COG5 Adjusting reading rate	COG5 Adjusting reading rate	MET2 Previewing text before reading
COG11 Re-reading for better understanding	COG1 Using prior knowledge	SUP2 Underlining information in text
Bottom five		
SUP5 Going back and forth in text	SUP4 Paraphrasing for better understanding	COG3 Reading slowly and carefully/COG5 Adjusting reading rate
SUP3 Using reference materials	MET4 Noting text characteristics	MET8 Using typographical aids
SUP4 Paraphrasing for better understanding	COG2 Reading aloud when text becomes hard	COG4 Trying to stay focused on reading
SUP6 Asking oneself questions	SUP6 Asking oneself questions	MET6 Using text features
SUP1 Taking notes while reading	SUP1 Taking notes while reading	MET4 Noting text characteristics

(Adapted from Sheorey & Mokhtari, 2001:439)

⁴³ FL students in the present study

⁴⁴ It was very difficult to classify this strategy for none of the taxonomies had a code that closely enough matched this statement as single entity; it was deemed a Metacognitive Reading Strategy for the fact that the reader is aware/conscious of his/her own problems and seeks to consciously solve them.

From the data in the table which has been abstracted from Table 2 in Sheorey and Mokhtari (2001) and from tables 21 and 23 in the present study, I argue that both present the complete descending lists of most to least used reading strategies participants purportedly used in mine. Sheorey and Mokhtari's (2001) results reveal a similar trend to mine regarding the position of kinds of strategies used by US (United States of America) and ESL (English as Second language) students and that they are aware of their own use of almost all strategies in the study, i.e. the 28-point reading strategy taxonomy (which congregates 10 metacognitive reading strategies, 12 cognitive reading strategies and six support reading strategies). This taxonomy has been used in my study to classify the kind of reading strategies identified in the Needs Analysis of textbooks used at UEM to teach EAP (Chapter 4) and in the discussion in Chapter 5.

The statements reflecting reading strategy usage in my study (Tables 19, 20, 21) also reveal that students were aware and conscious of the reading strategies they use, even though only a few could clearly name specific reading strategies as they are classified in reading taxonomies, such as those by Munby (1980), Rosenthine (1980), Weir (1984), Sheorey and Mokhtari (2001) used in my study. However the position of such reading strategies by my participants, as assessed by the frequency hits in Tables 19 and 20 depicting the overall total of frequency hits per statement reflecting reading strategy use respectively, shows an inverse picture. In Sheorey and Mokhtari's (2001) study the reading strategies US and EFL students considered crucial for reading in academic settings to construe meaning as per conclusion number 2 in their study: 'Both US and ESL learners attribute the same order of importance, irrespective of their reading ability or gender, to cognitive, metacognitive, and support strategies when reading academic texts', are not the same as those for FL readers in my study. The FL readers in my study, in a descending sequence, from top to bottom, revealed a trend that shows reading strategies reflected in numbers 26 (MRS – 'Identify my weakness to improve reading ability'), 25 (COG9 – 'Evaluating what is read'), 2 (COG12- 'Guessing meaning'/MET7- 'Using context clues'), 21 (MET2 – 'Previewing text before reading') and 11 (SUP2 – 'Underlining information in text') at the top, and claimed to be most used and at the bottom, frequency hits results show reading strategies 20 (COG3- 'Reading slowly and carefully'/COG5- 'Adjusting reading rate'), 17 (MET8 – 'Using typographical aids'), 7 (COG4), 15 (MET6 – 'Using text features'), and 16 (MET4 – 'Noting text characteristics') as the least used. If the complete list is fully analysed and compared to Sheorey and Mokhtari's (2001) list, the discrepancies are further revealed.

A closer look at the bottom five reading strategies of the FL participants certainly pinpoints an inverse trend: where what US and ESL students in Sheorey and Mokhtari's (2001) study consider higher order reading strategies, are the low order reading strategies according to the FL students in my study. These are COG3, 'Reading slowly and carefully'/COG5 'Adjusting reading rate' (20), MET8, 'Using typographical aids' (17), COG4, 'Trying to stay focused on reading' (7), MET6, 'Using text features' (15), and MET4, 'Noting text characteristics' (16) of which COG 4, COG5 and COG11 at the very top of the US and ESL list are at the very bottom of the FL participants. These and other issues are explored in the course of the discussion of my questions in the present chapter and the other relevant findings in the present study (see Chapter 7).

6.8.1 What skills/strategies do learners and users of English in an EAP-ESP-EFL context resort to when constructing meaning from text?

In this section I attempt to answer the questions posited at the onset of the current study and recalled in the introduction to the present chapter, i.e. questions (a), (b) and (c) regarding the specific reading strategies used by learners and users of English in an EAP-ESP-EFL context (see Chapters 1, 3, 4, 5). Given the findings and analysis yielded by the cognition and metacognition questionnaire in this chapter, I respond to questions (a) and (c). Question (b), 'To what extent are reading skills/strategies used effectively?' in Chapter 7.

Question (a) 'What skills/strategies do learners and users of English in an EAP-ESP-EFL context resort to when constructing meaning from text?' is to some extent answered in the findings from the Questionnaire Part II, which reveal a number of strategies and or skills purportedly used, or 'perceived' to be used, by the participants that fall onto three types of categories: **Language knowledge and processing ability**, i.e. word recognition, proposition formation, semantics awareness of text structure, etc., **Cognitive ability**, i.e. the use of prior knowledge, mother tongue, etc., and **Metacognitive strategic competence**. As has been mentioned, although these strategies are consistent with those used by good readers (Pang 2008:11), it should be noted that the participants in my study claim, or perceive themselves to use such strategies, and only a frequency analysis can determine whether my participants are competent or poor readers of texts

in the foreign academic language. In the latter category, metacognitive strategic competence, the participants claimed to monitor comprehension process, evaluating and regulating strategy use to achieve maximum comprehension (numbers #24, 25 and 26 in the questionnaire (part II) as per the adapted table (Table 23) below.

The claims above are consonant with the use of a number of important strategies for reading comprehension (setting the purpose for reading, prediction, summarizing, questioning, use of text structural features, self-monitoring), which readers/learners in general use to a greater degree to plan, control and evaluate their own understanding of text. Sheorey and Mokhtari (2001), Mokhtari and Reichard, (2004), Schoonen et al. (1998) and Stevenson et al. (2003) found the listed strategies to have been used by the participants in their studies to regulate their own reading process and the processing of meaning. In order to be able to come to similar conclusions in this study further evaluation is necessary and one which would if possible turn participants' claims into facts. I would argue that the possibility of doing so exists in view of the results from the TAM in Chapter 7.

Participants in the present study also showed themselves to have a battery of reading strategies and to be aware of and to make use of them (claim to and/or purportedly use) and these strategies seem broadly to be in conformity with those used by good readers, with very few exceptions. As already mentioned in Chapter 2, Pang (2008) posits that good readers are strategic, and strategic readers are able not only to use various strategies skilfully but also to monitor and regulate their strategy use with reference to the on-going comprehension process (Pang, 2008:9). Although there are differences between reading in L1 and L2 (see Grabe & Stoller, 2002), more than a few characteristics are shared between the two types of good readers as is the case of the US and ESL students in Sheorey and Mokhtari's 2001 study. Grabe and Stoller (2002) also suggest that most of the cases show that a good FL reader seems to make every effort to approximate his/her linguistic proficiency and repertoire of skills and strategies to those found in a good L1 reader. This undoubtedly appears to be the case of my FL participants, but only when it comes to the repertoire of skills and strategies and not their linguistic proficiency. But whether their use of the repertoire of reading skills and strategies closely approximates the L1, L2 and or ESL language students is uncertain and probably not likely. Findings in the present study seem to suggest that the battery of reading skills and strategies claimed to be used by FL participants are ordered in an

up-side down trend, thus not mimicking closely the linguistic proficiency and/or repertoire of skills and strategies of those found in a good L1 reader. Sheorey and Mokhtari's (2001) findings seem to lend substantial support to the findings of this study and may corroborate this assertion.

One of the sets of reading strategies purportedly used by the participants is that of supply strategies, the use of code mixing, translation, and cognates. These are known to be used by proficient bilingual and biliterate readers (Jimenez et al., 1995, 1996). Due to the fact that I have not been able to test the level of proficiency of the participants in the present study (this was not one of the aims) or the extent of their vocabulary range, I could, however, and on the grounds of their IELTS scores (Chapter 5) suggest that most of the participants may be seen as having a fairly low level of proficiency of English as multilingual users of this language. Their scores are below a score of 500 or better on the Test of English as a Foreign Language (TOEFL), a score level considered 'to be indicative of proficiency in English and sufficient to pursue university-level course work without any language-related restrictions' (Sheorey & Mokhtari, 2001). Evidence from the IELTS test results (Chapter 5) revealed that only seven participants had a result equal to or above 50% (out of 40 questions), something around the 4.5–5.5 band in the IELTS suggesting on this basis that only seven of the participants would have been accepted into a university and only upon serious consideration. There also would have a low degree of probability in terms of their being regarded by any faculty as proficient in English at a tertiary education institution and would probably have been asked to pursue crash courses to develop their language competence in English and related abilities.

Given that the above reading strategies are related to linguistic competence, to be able to switch from one language to another, and vice versa, translate and quickly find synonyms and/or antonyms, a reader must have the capacity and ability to engage in automatic and rapid processing of word recognition (Booth et al., 1999; Just & Carpenter, 1987; Perfetti, 1985; Pressley, 1998; Nassaji, 2003), as well as the capacity and ability to engage in automatic syntactic parsing and semantic proposition formation (Chen, 1998; Fraser, 2004; Liu & Bever, 2002; Lu, 1999), and possess a reasonable size of vocabulary (language threshold), i.e. probably ranging from 10,000 to 100,000 if measurable (e.g., Alderson, 2000; Barnett, 1986; Carver, 1993; Grabe & Stoller, 2002). In addition this reader would have to be aware of text types and discourse organization (Beck et al., 1991; Brantmeier, 2004; Carrell, 1992; Commander &

Stanwyck, 1997). The scores of the participants in the IELTS (see Chapter 5, 5.11 and 5.12 and subsequent subsections) as per the discussion above, the frequency hits around the choice of claimed usage of reading strategies (Table 22 above) seem to suggest otherwise but caution should be exercised here; other variable might be at play. The kinds of reading strategies that would aid this FL reader, a typical participant in my study, in successfully engaging in the path described and attaining comprehension seem to suggest otherwise because the kinds of reading strategies that should be at the top of the table are ranked in the mid and bottom of the list, i.e. ranked 11-26, where translation is placed in 18th position. This picture could lead us to the old 'unresolved' issue of reading being a language problem rather than or more than a reading one (Alderson, 1984, 2000; Bernhardt & Kamil, 1995; Bernhardt, 1999, 2000).

Past studies mentioned in Chapter 2, such as those by Jolly (1978), claim that learners' success in reading a foreign language depends most importantly upon their first language reading ability rather than upon their level of English (language threshold). Jolly (1978) further asserted that reading in a foreign language requires "the transferability of old skills, not the learning of new ones", suggesting a perspective tending towards reading competency being a reading issue. Coady (1979) also argued that foreign language reading is a reading problem and not a language problem. More recent studies in the 1990s and 2000s have in various ways discussed this issue (Alderson, 2000; Bernhardt, 2000; Pang, 2008; Jimenez et al., 1995, 1996; Feng & Mokhtari, 1998; Calero-Breckheimer & Goetz, 1993; Hosseini, 2006; Sheorey & Baboczky, 2008; Zhang & Wu, 2009; Malcolm, 2009; Stevenson et al., 2003; Brunfaut, 2008; Karbalaee, 2012; Yoku, 2009; Soi Meng, 2006) and have referred back to much of the work by Alderson (1984) and have suggested further studies in this area. Some of these scholars have brought a new dimension into the discussion, that of reading strategies usage (in tertiary education) which is my interest and the focus of my own study. These findings are also discussed in Chapter 7 for further insights. Some of the main aspects linked to reading strategies and reading process of bilingual and multilingual students are partly discussed below.

In the context of the use of supply strategies in the reading process, I now focus specifically on the issue of code-mixing, cognates and translation. At this stage focus is on translation and cognates. Code-switching is addressed in Chapter 7 in relation to the TAM findings. According to Jimenez et al. (1995), these strategies (use of supply strategies) are believed to be possibly

unique and particularly useful for reading in a second language. A study done by Feng & Mokhtari (1998) involving Chinese proficient university students revealed the use of these strategies: both easy and difficult reading materials were used with a similar type of readers (bilingual, multilingual and FL) and ‘invoked wide-ranging supply strategies while reading in English and in Chinese’ (Feng & Mokhtari, 1998). Similarly to most of the participants in my study, successful bilingual readers in Feng & Mokhtari’s (1998) study showed a trend towards reading and resolution of reading problems when they described how they would summarize and approach the reading of a large book in search for specific details. Feng and Mokhtari (1998) recognized many of the similarities that exist between reading in both languages, as did Calero-Breckheimer & Goetz (1993) and Jimenez et al. (1995, 1996) for English and Spanish students, Sheorey and Mokhtari (2001) seem to have come to the same conclusion. In their study, US and EFL ‘high’ reading ability students showed a similar trend regarding what reading strategies they used and placed at the top of the chain. This result was however rather different when compared to my study. Perhaps here the issue is what language to they switch from and to? It is suffice to say that the studies above dealt with two languages, L1 and L2 and I doubt that these participants would have a potpourri of languages like mine, Bantu languages as listed in earlier chapters.

Although in my study almost all of the apparently successful bilingual readers (meaning Portuguese and English, for there is no evidence they could read and or write in one of the bantu languages given the informal status they have had in formal education) (based on the results of the IELTS reading comprehension test and on claims made regarding reading strategies usage, and discussion below) were aware of several reading strategies and claimed to use a degree of support strategies such as those used in Sheorey and Mokhtari’s (2001) study by the US and ESL students (support strategies were placed high and the FL participants referred to these specific reading strategies) and others strategies, cognates, code-switching and translation (see *frequency hits* in Table 19, statements #4 for cognates and 13 for translation), these strategies, considered by many language practitioners to be unique and believed to be of particular importance for reading in a second language, or FL, in my study are placed at the bottom half of the rank chain (see Table 22). An apparent contradiction between what is claimed by the participants in my study and the literature and findings from other studies needs to be addressed here.

The findings in the present study did however show that the participants' dimensions and characteristics were mostly in accordance with those described by Pang (2008), and with findings which revealed that FL readers (bilingual and multilingual) use support strategies with a high frequency and have an extensive knowledge of cognitive and metacognitive reading strategies (Sheorey & Mokhtari, 2001; Mokhtari & Reichard, 2004; Schoonen et al., 1998; Stevenson et al., 2003, Pang, 2008; Jimenez et al., 1995, 1996; Feng & Mokhtari, 1998; Calero-Breckheimer & Goetz, 1993; Jimenez et al., 1995, 1996; Nezhad, 2006; Sheorey & Baboczky, 2008; Zhang & Wu, 2009; Malcolm, 2009; Stevenson et al., 2003; Brunfaut, 2008; Feng & Mokhtari, 1998; Karbalaee, 2013; Yoku, 2009; Meng, 2006). It was interesting to note that reading strategies that are considered to be associated with 'high' reading ability (Sheorey & Mokhtari, 2001:442) show low frequency hits in my data. These are cognitive strategies 3, 4, 5, 7, 8, 11 and 12, and metacognitive strategies 1 and 11. This suggests that reading strategies that are viewed as indicating 'high' reading ability may not necessarily be the same for FL students studying in a multilingual context with an array of languages that are studied in formal instruction. This is also clearly depicted in the rank (Table 22 above), where 'high' ability reading strategies for US and ESL students within the same context (Sheorey & Mokhtari, 2001:439, Table 2), namely cognitive strategies 1, 4, 5, 6, and 11, and metacognitive 11, irrespective of the order, are the same. Table 22 also shows a completely inverse trend when it comes to FL participants in my study. Here it can be seen that what emerged as 'low' ability reading (Sheorey & Mokhtari, 2001) for US and ESL students (SUP 1, 2, 3, 4, 5, 6 and MET4 and COG4) are among the '*high frequency hits*', 'high' reading ability, for the FL participants. These are COG9, MET7, MET2, SUP2 even if not in the top five. Their position may suggest a range of possible reasons behind this scenario some of which I could hypothetically advance: i) lack of good formal instruction in using reading strategies adequately to construe meaning in the FL; ii) use of different styles to approaching reading; iii) inadequate use of reading strategies due to lack of knowledge of text structure/features/purpose; iv) level of language and linguistic competence; v) inability to systematize and operate with a foreign language; vi) inability to transfer L1 reading strategies to the FL due to effective use of a SL/L2 as a medium of instruction, and so on. This list is endless. Reading strategies, such as evaluating what is read, using context clues, previewing text before reading (skim and scan, schemata), and underlining information in the text, are critical for learners to construe meaning. While any and all reading

strategies play a vital role in the construction of meaning and attainment of text comprehension, there are those strategies that are considered to be high order reading strategies that should, for certain groups, be visible and indicative of good usage and good reader behaviour. The inverse ranking of reading comprehension strategies purportedly used by FL readers has however made it hard to provide very conclusive assertions, although it has provided grounds for confirming the assertion that skilled and less skilled readers ‘tend to use certain identifiable strategies linked to specific kinds of reading’ (Block, 1992, Sheorey & Mokhtari, 2001).

Although studies done over decades have shown that each individual approaches reading in his or her own way and style, the possibility exists that these studies are not taking into account what has been recognized as critical by Li and Errey (2008), who argue that ‘though the EGP curriculum includes teaching of reading skills for general purposes, these may not be appropriate for university students dealing with academic texts and reading purposes’. This situation I would argue applies to UEM (in Chapter 4 I have mentioned a selection of the First Certificate as a core course book in Translation Studies and other degree courses and other textbooks of commercial nature are used, i.e. the Headway series – textbooks more appropriate to an EGP course). They further suggest that it is a matter of urgency that research be conducted into the kinds of reading strategies needed and demanded by students at university, particularly universities in multilingual contexts, and that the results of this research be used to adapt teaching styles and materials to such demands and to match pedagogy to the types of reading approaches students might be using in academic settings. In their study they cite scholars in this field, such as Dieb-Henia (2003) and Spector-Cohen et al. (2001), who agree that the teaching of a range of metacognitive reading strategies in addition to the bottom-up and top-down taught in English for General Purposes -EGP⁴⁵ (I’m not clear whether these are clearly taught in the EGP in subsystem of education in Mozambique) to efficiently deal with students’ need to read multiple texts ‘under time pressure’ and ‘often written in a discipline specific discourse’, and packed with specific lexical items is called for. The question is where and how this research would be done and how it should be framed. Should these research activities continue to be carried out mostly within the L1 and ESL spectrum or widen the field– to include the FL multilingual context where English is not the first language of learners/readers. Ideally the present study, in order to obtain a more

⁴⁵ EGP – English for General Purposes

comprehensive picture of the students' reading strategy problems in the specific multilingual context of UEM, would have included the kinds of reading strategies taught (or not taught) to the student participants at primary school level in whichever language (Portuguese or a regional Bantu language) their literacy development began. However, due to time and logistical constraints, this was beyond the scope of the present research.

Of key importance to the present study is Vidal's 2002 study, described in detail in the previous chapter (5.3) and one of the few studies that dealt with Portuguese language speakers, involving Brazilian L1 Portuguese speakers studying English as a Foreign Language, and with some similarities to participants in my study. The results of Vidal's (2002) study are described in detail in 5.3 in terms of the use by participants of metacognitive strategies relative to memory and affective strategies, and their resorting to compensatory and cognitive strategies to construe meaning and complete tasks. As with my study regarding the relationship between participants' reported frequency of strategy use and their ratings of task performance on writing tasks, the results of Vidal's (2002) study were blurred and inconclusive. Reading and writing tasks may demand the use of similar reading and comprehension strategies, thus the relevance of the results from Vidal's (2002) study to mine. While Vidal (2002) reported social strategies to be used as well, he concludes that the connection between successful learners showing an amount or quality of strategy use might not be as straightforward as other studies have claimed. However it should be noted that recent studies have shown this relationship in a much clearer manner as demonstrated above in the course of the present discussion. It should also be noted that Vidal's (2002) remarks may be related to Portuguese L1 speakers studying English as a Foreign Language and, because of the scarcity of studies involving this type of learner, in the reading field, this claim remains hard to dismiss. I would argue that, although the trend in my study, together with the data yield, provides me with a strong basis to claim the validity of Vidal's (2002) study in support of my findings, there remains the need to look into issues related to the role of affective and social strategies in the reading process in a multilingual context such as that of UEM. I would argue strongly that my data corroborates Vidal's (2002) views related to most of his participants reporting their use of more metacognitive strategies and less memory and affective strategies and also resorting to compensatory and cognitive strategies to construe meaning. I explore this issue further in Chapter 7.

Some of the differences evident in data and issues related to the blurred and/or lack of a clear relationship between the use of reading comprehension strategies and reading comprehension tests scores, and the possible reasons for this, are tentatively discussed in Chapters 7 and 8, but at this stage of the study I suggest that IELTS test scores do not correlate in any significant way with student participants' claims of their high extensive use of a battery of cognitive, metacognitive and support reading strategies. Despite this blurred and lack of a clear relationship between reading comprehension strategies and RCT scores, there is a trend worth noting, which is the apparent strong and positive relationship between the claims and/or self-reported use of reading strategies with good reading behaviour (for instance low *frequency hits* on statements 4, 5, 6 and 7 hovering around columns 1 and 2; statements 9 and 12 which are not a particular cause for concern when compared to the highly disturbing scenario revealed by statements 14 (*I scan the text for purpose before reading for details*), 15 (*I use graphics like charts, figures, punctuation to help me understand the text.*), and 17 (*I use a table, a chart or bullet to summarize the structure of the text.*). This noticeable positive trend however is not enough to provide a conclusive answer to research question (a): what skills/strategies do learners and users of English in an EAP-ESP-EFL context resort to in order to construct meaning from text? The answer can only be conclusive, perhaps, once a detailed analysis of the participants' effective use of reading strategies is carried out and this done in Chapter 7, and may substantiate the propositions advanced in this study.

6.8.2. To what extent are learners and users of English in an EAP/ESL/EFL context aware of their own use of reading skills/strategies?

Findings from the questionnaire reveal data that go some way to answering this question although it is important to deal with this issue in more depth. That the participants are aware of reading skills and strategies is evident from the number of *high frequency hits* around the how s #3= *I do that sometimes, but not always*, #4= *I usually do that*, and #5= *I always do that* (Tables 19 and 20) despite a few evident exceptions. The results, although suggesting a positive constructive trend as shown by the *hits* per choice around the light grey coloured middle columns (#3= *I do that sometimes, but not always*, #4= *I usually do that*, and #5= *I always do that*) with yields of 149, 129 and 113, respectively, seem to depict a rather different scenario. As

mentioned above, good readers are strategic and they make strategic and skilful use of various reading strategies to monitor and regulate their own use of reading strategies with reference to the on-going comprehension process (Pang, 2008:9). Results from the FL participants would suggest that their use is consonant with a high degree of frequency for support strategies and cognitive reading strategies (mostly used by good readers) resulting in a higher tendency to achieve the overall meaning of the text more successfully than do poor readers (Sheorey & Baboczky, 2008). However, the trend shown of top-down use and self-awareness of a whole battery of reading strategies is in contradiction with the negative mean score result of the IELTS reading comprehension test: only 16.57% (See Table 15, Chapter 5). This trend, coupled with the one shown in the rank of statements reflecting reading strategy usage, leads me to claim the existence of a serious reading problem amongst my research sample and perhaps amongst students at UEM dealing with foreign language texts.

6.8.3. Possible gender effect

One striking aspect that emerged from my analysis, even although this had not been hypothesized at the onset of the study, and was not included in my research questions, is the relationship between female participants' use and awareness of reading comprehension strategies and their results in the reading comprehension test. I observed that the female participants (in the minority) scored higher than their male counterparts in the IELTS (see Tables 14 and 15; also Figure 6 in Chapter 5), and they also claimed to use high frequency reading strategies, a trend found in other studies (this also clearly emerged from the metacognitive questionnaire results discussed in chapter 7). The findings of the Sheorey and Mokhtari 2001 study on gender differences in terms of levels of awareness of reading strategies have been described. This gender effect was not reflected in the ESL sample, perhaps because in this group the males outnumbered females by 50% (male $n=92$ vs. female $n=60$), but it is reflected in my study, even though the female participants were in a minority, 1 female for 4.7 males for $N=28$, and 1 female for 6.7 males in the pilot test (13% in the pilot test and 21% in the IELTS test). The table below depicting only the female results clearly shows that the female participants were among the top ten scorers.

Table 23 IELTS results of female participants

21	CMT021	19	47.5	M	Tsonga Shangane	
22	ARM022	20	50.0	M	Tsonga Shangane**	
FCM023 20 50.0 F SHONA						
YTD024 20 50.0 F PORTUGUESE						
25	JBM025	21	52.5	M	Tsonga Shangane	
DIT026 21 52.5 F BRAZILIAN PORT						
27	BSG027	23	57.5	M	Emakhuwa	
28	JMM028	20	50.0	M	PORTUGUESE	

(see Table 12 for a complete set of IELTS results which include those of male participants)

When their IELTS scores are correlated with their claimed use of a battery of reading comprehension strategies, and coupled with the actual effective use of these tools to construe meaning, the participants show different trends. This is evident for participant DIT026 whose claims of reading strategy use included all choices but two around points 3-5 in the Likert scale and are a clear indication of his/her use of reference materials such as a dictionary, glossaries, encyclopaedias and the Internet as well as very good reading strategy for Q1 and Q3; YTD024, whose claims showed the usage of a battery of reading strategies, and all of whose choices but one hovered around points 6 and 3-5 in the Likert scale, and use of a dictionary and the Internet for Q1 and Q3. A further example is FCM023 who had all choices but four around points 3-5 in the Likert scale, use of context to guess meaning and use of a dictionary for Q1 and Q3, and a highly elaborated explanation of summarizing. In a nutshell, the participants' self-reported use of reading strategies correspond with the dimensions of a good reader (see Table 6, Chapter 2). The female participants were the only ones to have mentioned the use of a combination of cognitive and metacognitive ability (supporting devices such as the Internet, glossaries and dictionaries), and showed some parallels with the conclusions from results of studies such as those by Poole (2009), which were specifically aimed at discovering whether females and males significantly varied in their utilization of reading strategies. In Poole's (2009) study 352 participants, of which

117 were male and 235 females at low to intermediate level of proficiency, and studying at Colombian university, Colombia, completed the SORS questionnaire and the results indicated that the males' overall strategy use was moderate when compared to the females' overall strategy, which was high. In addition, the females' overall strategy use was significantly higher than that of the males, as was their strategy use on two of the three SORS subscales (support and problem solving strategies). Sheorey and Baboczky (2008), who investigated the strategy use of 134 male and 411 female Hungarian college students, also using SORS, along with students' self-rating of their reading abilities in English (scale one to six), produced findings which showed that females scored higher than males on about half of the SORS items, and on all three SORS subscales. Perhaps this issue deserves a separate study for a more in-depth understanding of this differential.

6.9 Preliminary conclusion

In conclusion I would argue that the findings in my study not only show a high frequency of cognitive ability associated with the metacognitive ability involved in the participants' construing meaning but also indicate a negative trend. The negative trend in the findings, however, may also suggest that, apparent strong relationship between reading strategy use and awareness and the characteristics of good and successful FL readers, as well as a non-apparent strong relationship with the RCT scores, perhaps a rather negative trend, may be due to the fact that metacognition cannot be seen as separate or detached from cognition. Consequently key factors in metacognition, knowledge and control, are *'concerned respectively with what readers know about their cognitive resources and their regulation'* (Carrell et al., 1998:101). In this context regulation in reading should be understood as the awareness of, and ability to detect contradictions in a text, a knowledge of different strategies to use with different text types, and the ability to separate important from unimportant information. Some of this *deregulated* control of cognitive and metacognitive ability is patent in some of the claims participants made when responding to questions on problem solving. Further, the dimensions and characteristics of good readers reviewed by Pang (2008), which my data appeared to show were possessed by the participants, are explored further in Chapters 7 and 8 with the aim of gaining further insight into the cognitive and metacognitive ability of the participants together with results from the *Think*

Alouds and relationship with the findings documented in Chapters 4, 5, and 6. I have to single out the female participants (who were the minority) in the present study who were shown to outsmart the male participants both in the Pilot and the IELTS tests and clearly claimed to use a battery of reading strategies that find a parallel in high ability readers in L1 and L2. I attempt to confirm (or possibly disprove) their claims of strategy use from the findings of the TAM (Chapter 7) and, from this analysis, draw reliable and appropriate conclusions.

Thus the main aspects pertaining to the discussion of the findings in the current study are sevenfold and will be born in mind when drawing the final conclusions from the study as a whole in Chapter 8. In terms of the findings so far, FL readers in the multilingual context described in the present study:

1. show a picture depicting the use (or claimed use) of a battery of cognitive, metacognitive and support reading strategies, with very few and insignificant exceptions;
2. are comparable to good or high ability readers, but with an inverse order of priority reading strategies when compared to the US (L1), ESL (US L2) readers/learners in Sheorey and Mokhtari's (2001) study;
3. are aware of the existence of reading strategies and seem to consciously use them in their daily reading processes;
4. use reading strategies that are unique to FL bilingual readers: use of cognates, translation and code-switching;
5. show a claimed regulated to sophisticated use of reading strategies for task resolution;
6. show the trend of use of top-down to compensatory reading strategies and self-awareness of a battery of reading strategies, yet in contradiction, the negative mean score result of the IELTS reading comprehension test: negative significance when correlated;
7. show clearly that female participants claimed to use a battery of reading strategies that find a parallel in high ability readers in L1 and L2, and their RCT scores show a highly positive significance.

6.10 Issues of concern

Some issues of major concern and deserving of more comprehensive understanding remain. The data have revealed that no conclusive claims can be made with regards to higher *and proficient use of strategies* (see results in Table 19, column 1 for statements # 6, 7, 14, 15, 17, 20) in which participants claim to in some way stop and/or pause the continuous flow of coherent reading in order to read difficult sentence (s) repeatedly until these are understood or not (by the reader). Also of concern is the practice of never ignoring difficult sentence (s) and continuing reading, and never scanning the text for purpose before reading for details, and never using graphics such as charts and figures as cues as well as punctuation to help them understand the text, and tables, charts or bullets to summarize the structure of the text. The importance of this set of strategies has already been mentioned. One could argue that this picture can be used to justify the poor results in the RCT and perhaps the for propoer and formal teaching of reading comprehension skills/strategies and abilities per se.

6.11 Conclusions

At this stage of the research I should conclude by affirming that the findings show the participants self-reported use of a battery of cognitive, metacognitive and supply reading strategies, with very few and insignificant exceptions among themselves, and that they can be compared to good or high ability readers. However, comparison with Sheorey and Mokhtari's (2001) study showed that the perception of participants in the current study of the most and least important reading strategies differs from that of US (L1) and US ESL (L2) readers/learners. However, the study confirmed that the participants are aware of the existence of reading strategies and seem to consciously use them in their daily reading processes, but at this stage one cannot conclusively claim that the reading strategies are used effectively. Confirmation from the findings supported the idea of the unique particularity of FL bilingual readers in terms of using cognates, translation and code-switching.

One very particular finding was related to the claimed regulated to sophisticated use of reading strategies for task resolution, where a trend of use of top-down to compensatory reading

strategies, and self-awareness of a battery of reading strategies, was observed but this was in contradiction with the negative mean level of test comprehension as mirrored in the IELTS reading comprehension test results: negative significance when correlated.

Finally, the findings have revealed and confirmed that female participants claimed to use a battery of reading strategies that find a parallel in high ability readers in L1 and L2, and this particularity is reflected in the apparent strong relationship of reading strategies usage (purported at this stage) with their RCT reading comprehension scores: highly positive significance.

Chapter 7 will allow the possibility of confirming or not participants' purported use of reading strategies and the relationship with RCT scores, and with their effective use of reading strategies.

CHAPTER 7 STUDY PHASE III: COGNITIVE AND METACOGNITIVE STRATEGY USE IN THINK ALOUD METHODS

7.1 Overview

This chapter provides an additional lens through which to explore the effectiveness of participants' use of reading comprehension strategies by investigating the extent to which they are able to verbalise their thought process in terms of their own reading process and reading task completion in a foreign language, the target language, English.

In Chapter 5 the findings from the IELTS reading comprehension tests revealed a low degree of text comprehension among participants. There was no conclusive relationship between the reading strategies identified in teaching materials and practices in Chapter 4 with those inferred from the reading comprehension test in Chapter 5, nor with the strategies participants claimed to use as reflected in the questionnaire discussed in Chapter 6. It appears from participants' responses that they perceived reading strategies such as COG 1, 4, 9,10, MET 1, 3,4,7,8, and possibly all SUP 1-5, to be necessary for success in the IELTS reading test, which placed more emphasis on the ability of the participant to perform a number of tasks, such as identifying structure (referential), content (literal and interpretive), sequence of events and procedures (interpretative and referential), finding main ideas which the writer has attempted to make salient (referential and critical), identifying the underlying theme (critical), identifying ideas in the text, and relationships between them, e.g. probability, solution, cause, effect (referential), identifying, distinguishing and comparing facts, evidence, opinions, implications, definitions and hypotheses (critical), evaluating and challenging evidence (critical), formulating an hypothesis from concept and evidence (interpretive and critical), reaching a conclusion by relating supporting evidence to the main idea (literal, referential and critical), and drawing logical inferences (critical); in other words, all three levels of comprehension (see Table 9, Chapter 5). The comparison of the IELTS with the pilot test, in terms of the differences between the tests in terms of reading skills required for each, and the scores of the participants, has been dealt with in detail in Chapter 5.

Furthermore, the findings in Chapter 5 suggested that the outcomes of the IELTS RCT indicated corroboration with participants' failure to plan how to approach the reading of a certain text, and

to test or revise ideas regarding the text, or to decide whether their reading speed was adequate for processing a text according to the purpose and time available for reading (Devine, 1993; Li & Errey, 2008). I would argue that this failure led to their non-completion of the final part of the RCT (IELTS, part III).

Contrary to the scenario sketched in Chapter 5 showing participants scoring poorly in the IELTS test, Chapter 6 provided a picture of the FL readers who took part in the study showing an awareness of reading strategies and claiming to use them with a degree of effectiveness. It is this awareness on the part of participants which this chapter aims to evaluate using another tool. The findings in Chapter 6 also revealed that the types of reading strategies found in the international literature to be most and least used by L1 and ESL readers are inverted in the FL context of the current study. The issue is whether the above ranking hinders or hampers reading comprehension and the effective use of reading strategies in this context, an issue which remains inconclusive and unresolved at this stage. This chapter therefore seeks to further evaluate the effective use of reading strategies as they are actually rather than purportedly used by the student participants in this study and to confirm or disconfirm the trend so far described in Chapter 6.

A more in-depth analysis of the data is hoped to provide further grounds to expand the discussion to a subset of issues that were not put forward at onset of the present study and discuss answer to research question (b) *to what extent are reading skills/strategies used effectively?*

Given the lack of empirically based studies in Portuguese speaking countries where learners use the target language (English) as a third (L3) or FL language, in addition to communicating in a context with a diverse repertoire of L1 languages (Bantu) which are not the formal medium of instruction at primary and secondary school levels, findings of this study have sparked a rise to a new subset of questions to be discussed and substantiate the original set of research questions. Hence, the following will be discussed:

1. Do participants who speak an L1 Bantu Language such as CiNyanja, CiMokonde or other perform better than L1 Portuguese speakers?
2. What specific reading strategies do participants make use of that could be classified as typical of multilingual foreign language readers?

3. To what extent is the use of certain strategies or groups of strategies linked to other variables such as gender, language profile, and RCT scores?

The discussion of the above issues in this chapter is intended to extend and consolidate the ideas and views posited in previous chapters, and to feed onto the conclusions in Chapter 8. on the effective use of reading comprehension strategies by FL learners in contexts such as the one at UEM.

7.1 Introduction

This chapter and respective sections intend to provide a review of the method and additional ground to the understanding of Think Aloud Methods (TAM) and its use for a variety of purposes. I explore the history of the concept and look into the major hurdles that one can have when using TAM, mainly reactivity and veridicality and discuss possible definitions for *reactivity* and *veridicality*.

Using the foregrounding work by Ericsson and Simon (1981, 1984, 1993) the section below provides an overview of the ways in which TAM has been used in L1 and within SLA research studies, its evolution and particularly with regard to the identification and effective use of reading comprehension strategies, both cognitive and metacognitive, which are commonly investigated through questionnaires, taxonomies and surveys such as the Metacognitive-Awareness-of-Reading-Strategies Inventory (MARSI) and Survey of Reading Strategies (SORS) (Sheorey and Mokhtari, 2001).

I explore examples of studies in SLA and Foreign Language Teaching to provide a sound basis for a discussion on the validity, reliability, reactivity and veridicality of TAM and use the method proper in my context with Mozambican tertiary learners, given the evidence showing the inexistence or lack thereof of studies discussing about reading strategies of adult learners in tertiary FL multilingual contexts and Portuguese speaking countries with an array of L1 languages, i.e. a diverse repertoire of Bantu languages already listed above.

The study of Second language acquisition (SLA) has over the past decades moved towards new dimensions. The works of Sheorey and Mokhtari (2001), Grabe (2009) and Bernhardt (2011), Smith and King (2013) are some but a few examples that have shown such evolution. And the understanding of reading comprehension and the use of Think Aloud Methods, namely verbal protocols (TAM) has treaded the same path, from Huey (1804) to Frank Smith (1971) to newer trends explained in works by Ericsson and Simon (1984; 1993) Afflerbach (1990) and more recently Bernhardt (2011) and Smith and King (2013). Several authors have craftily reviewed theses trends, yet Smith and King (2013) have written about the re-conceptualization of second language acquisition (SLA) in a paper that covers very sensitive aspects of the said evolution. I shall resort to this paper and other works as a base and to justify some of my queries and or propositions.

Further, the assertion towards the need of what Smith and King called a paradigm shift in the use and interpretation of verbal protocols guides the present paper and more surely my quest to understand TAM and its use in the teaching of reading comprehension and reading comprehension strategies in a foreign language, its validity as a research tool and the various other features this tool has and that may impact on research results in the field.

The topic discussed hereof, the Think Aloud Methods, will certainly be based on the groundbreaking studies by Ericsson and Simon by (1981, 1984) and the many other studies that analyzed and used TAM and revisited the tool along the line of Smith and King (2013) to provide further grounds on the validity, veridicality, reliability, reactivity when used in FL studies.

7.2 Think Aloud Methods (TAM)

Various terms have been used in the literature to refer to essentially the same research methodology process, the Think Aloud Methods (TAM) or the Think Aloud Verbal Protocols (TAVP). These terms include ‘verbal reports’ (Afflerbach and Johnston, 1984; Crutcher, 1994), ‘protocol analysis’ (Ericsson and Simon, 1980; Afflerbach, 2000;), ‘verbal protocols’ (Ericsson and Simon, 1980; Austin and Delaney, 1998;), ‘think-aloud verbal protocols’ (Cohen, 1996), ‘thinking-aloud protocols’ (Ericsson and Simon, 1979), ‘think alouds’ (Davey, 1983; Kibby,

1997; Block and Israel, 2004) and ‘think aloud methods’ (Ericsson, 2002b; Johnstone, Bottsford-Miller and Thompson, 2006; Yoshida, 2008). The present study will use the term Think Aloud Methods (TAM, except where otherwise specifically mentioned, as part of a specific study’s methodology.

7.2.1. The concept explained

TAM together constitute a method to elicit concurrent verbalization of an individual’s internal cognitive processes, and to structure the verbalization process so that the verbalization can be utilized as data (Ericsson and Simon, 1983). They are also described as constituting a rigorous methodology for eliciting verbal reports of thought sequences as a valid source of data on thinking (Ericsson, 2002a), and this methodology has been extensively employed in the fields of psychology and cognitive science as a verbal-report method of producing concurrent verbalization (Yoshida, 2008).

The think aloud methods draw on thoughts in the short-term memory of subjects because all cognitive processes that generate verbalizations are a subset of the cognitive processes that generate behaviour or action and travel through short-term memory (Ericsson and Simon, 1993). So the conscious thoughts of the subject can be reported [*concurrently*] at the time they are processed and these verbalizations claimed to be representative of an individual’s cognitive processes at that time (Yoshida, 2008).

The premise of the think aloud methods is that individuals may not have conscious access to all of their internal cognitive processes involved in performing a particular task, and as such no attempt is made to gain access to individuals’ internal cognitive processes but rather to elicit verbalizations that are representative of cognitive processes of these individuals that take part in the elicitation process (Ericsson, 2000, 2002a; Yoshida, 2008). TAM requires participants to tell researchers what they are thinking and doing while performing a task (Yoshida, 2008).

This process is explained through a simple model of the human cognitive system (Van Someren, Barnard, and Sandberg, 1994) which is broken down into three parts: i) the sensory system, “that transforms information from the environment into an internal form;” ii) the long-term memory,

where knowledge is stored more or less permanently; and iii) the working memory, where the currently ‘active’ information resides (Van Someren et al., 1994,p. 20). Van Someren et al. (1994) claim that the contents of the sensory system and of long-term memory cannot be verbalized unless these contents are retrieved in some form and stored temporarily in the working memory. Therefore only contents of working memory can be verbalized through the think-aloud methods. When providing an individual with a specific task, he/she is instructed to say anything and everything that crosses his or her mind, speaking constantly, without consciously filtering what is being said (in so far as that is possible). In this manner, the individual should (introspectively) articulate the appropriate cognitive process(es) involved in performing the given task (Coaksey, 2000, p. 86).

TAM can also be used after the task has been performed. This process is termed *retrospective verbalization*, in which “a subject is asked about cognitive processes that occurred at an earlier point in time” (Ericsson and Simon, 1980, p. 218). Retrospective verbalizations are used because think aloud utterances are sometimes incoherent at the moment of task resolution (Ericsson and Simon, 1993). So if such incoherence is observed, post-TAM interviews (retrospective TAM), which take place right after the think aloud protocol is completed, or within established intervals, can yield more articulate responses.

To collect verbalizations (introspectively and retrospectively), TAM require participants to tell researchers what they are thinking and doing while performing a task (introspection), and because of this particular aspect, participants are usually directed to keep thinking aloud, and act as if they are alone and speaking to themselves (Ericsson and Simon, 1993; Ericsson, 2002; Yoshida, 2008, Johnstone et al. 2006). The verbalizations are recorded via a tape-recorder, or videotaped, and then transcribed for content analysis. During the analysis process the data is often coded according to a specific classification, i.e. a set of categories developed by the researcher.

7.2.2 Background on the concept of TAM

The TAM formally came into being in the early 1990s with a book entitled “Protocol Analysis: Verbal Reports as Data” (Ericsson and Simon, 1993) which clearly posited think aloud data collection as being a valid method for researching cognitive processes. However, the starting

point of this endeavor dates back to the emergence of psychology as a scientific discipline, towards the end of the 19th century, which in turn stimulated interest in issues related to consciousness. At this time psychologists sought to examine the structure and elements of [the individual's] thoughts and subjective experiences through introspective analysis (Ericsson, 2002). The use of verbalizations as indicators of cognition is a decades-old data collection technique. Psychologist Karl Duncker (1945) originally described think aloud verbalizations as productive thinking and a way to understand his subjects' development of thought. With time, results from studies within this period were called into question and interest faded, given their focus on observation of responses to stimuli. With the advent of computational programs there emerged a renewed interest in field and a shift in the way cognitive research was carried out (Ericsson, 2006). This shift in psychological inquiry from a behavioral focus on observable responses to stimuli, to a cognitive focus on the processing involved, was in response to pressure and concerns raised by the cognitive research fraternity about the validity of data collected through analytic introspection as a scientific method. For example, reports of changed sequences of thoughts due to the need to explain the process as put by Ericsson (2006), or the criticism around the validity and accuracy of the retrospective/introspective verbal reports where arguments pointed to unreliable reports and reports showing reliance of participants on rules that were inconsistent with their observed selection behavior (Verplanck, 1962; in Ericsson, 2006) or provision of inconsistent explanations *vis a vis* their observed behavior (Nisbett and Wilson, 1977). As such initial demise on the method prompted developments that led to better methodology to instruct participants to elicit 'consistently valid non- reactive reports of their thoughts' (Ericsson, 2006, p. 227), (Ericsson and Simon, 1993, 2002b, 2006; Kucan and Beck, 1997).

The shift mentioned above saw a rise in interest in introspection data collection in human cognition and higher-level cognitive processes renewed in the 1970s, when 'technical innovations such as the computer, the design of computational programs that could perform challenging cognitive tasks, led to the emergence of cognitive and information-processing theories of psychological phenomena' (Ericsson, 2002b, p.1). This development meant that psychologists moved away from interviewing the individuals and creating their own 'expert' description of their thoughts and behaviours in laboratory environments. Instead experimental psychologists developed standardized tests with stimuli and instructions where the same pattern

of performance could be replicated under controlled conditions: they observed and asked the individuals to ‘think aloud and give immediate verbal expression to their thoughts while they were engaged in problem solving’ (Ericsson and Simon, 2006, p. 224).

Because of the considerable controversy over this issue, largely related to experts’ lack of capacity to explain the nature and structure of individuals’ performance, the validity of their studies was questioned. For example, inconsistent descriptions of the same issue by different experts threatened the validity of results from the studies when, in rare cases, verification of the strategy used by a participant during the performance of the task and/or TAM was allowed and this resulted in different descriptions of the actual action and thought verbalization reporting strategy usage as well as of the observations (Ericsson and Simon, 2006). Thus recourse to newer methods was necessary and computer-developed methods in which more sophisticated computer programs were used to investigate the performance of challenging cognitive tasks. These studies of the 1970s attempted to describe and infer the thought processes that mediate a particular cognitive process or task (Newell and Simon, 1972).

With this newly reinvented and purportedly more rigorous and accurate research tool, “think aloud” techniques were redeveloped by Ericsson and Simon (1983), who showed that it is possible to instruct participants to verbalize their thoughts in a manner that does not alter the sequence and content of thoughts mediating the completion of a task and therefore participants should reflect on or verbalize immediately available information during thinking. This new approach to collecting various types of verbal reports of thinking has since become the core method of protocol analysis.

Today, the verbal protocol analysis or, simply, TAM, , also known as the Think Aloud Protocols (TAP), is a rigorous methodology for eliciting verbal reports of thought sequences which have been deemed by cognitive researchers and practitioners to be a valid source of data on thinking.

The group of Think Aloud Methods has evolved into one of the main methods for studying thinking in Cognitive Psychology (Crutcher, 1994), Cognitive Science (Simon and Kaplan, 1989), and Behaviour Analysis (Austin and Delaney, 1998). Think Aloud Methods also play a major role in applied settings such as the designing of surveys and interviews (Sudman; Bradburn and Schwarz, 1996) through the evaluation of computer designed programs which

compare several surveys and perform computational data analysis in the testing of computer software (Henderson; Smith; Podd and Varela-Alvarez, 1995). Ultimately the method has undergone several interesting metamorphoses, for example from a tool in psychology to seek understandings and examine the structure and elements of individuals' thoughts and subjective experiences, to a means of investigating higher order cognitive processes, to its adaptation to suit the study of text comprehension (Pressley and Afflerbach, 1995), L1 and L2 and FL reading comprehension and analysis (Block, 1992; Block and Israel, 2004; Yoshida, 2008), and test taking (Alderson, 1990). Other fields using TAM are mental translation processes and translation studies (Kern, 1994), triage studies (Van Someren; Barnard and Sandberg, 1994; Pomerantz, 2004), evaluation of on-line resources for nursing students (Gresty and Cotton, 2005) and education (Renkl, 1997). Other examples of the use of TAM are the recent studies on the effect of computer-based read-aloud methodology on test performance of high school students with learning disabilities (Dolan *et al.*, 2005) and on the issue of reactivity on L2 acquisition. Reactivity is defined as the possible changes triggered in learners' cognitive processes by the act of thinking aloud while they are performing the task (Leow and Morgan-Short, 2004; Bowles and Leow, 2005; Yoshida, 2008). The latter studies are significant for FL language learning and reading because they have helped researchers in SLA to observe the cognitive processes involved and have been used in reading, writing (reactivity to TAM), testing, language acquisition, discourse analysis, as well as issues related to attention and awareness in the writing process.

Think aloud methods have given SLA researchers information about the types of strategies learners apply in L2 tasks, for example Alanen (1995), Leow, (2001b), Rott (1999) on discourse analysis, and Leow (1998a, 1998b, 2000, 2001a) and Rosa and O'Neill (1999) for problem-solving tasks. However, such studies have not to date dealt empirically with reactivity, an issue of particular relevance to my doctorate study. I have delved into this and other validity issues, i.e. key features of TAM, to further expand on how these methods (may) contribute to our understanding of the less visible variables in the language learning and reading process in SLA and FL.

7.3. Introspective and retrospective verbalizations

I have above given a description of two possible relationships between cognitive processes and verbalizations: introspective or concurrent verbalization, and retrospective verbalization. As defined earlier, *introspective* verbalized data should be understood as information verbalized at the time the subject is attending to a task, while *retrospective* verbalized data should be understood as data collected after the task has been completed and usually in the absence of concurrent data. In this process “a subject is asked about cognitive processes that occurred at an earlier point in time” (Ericsson and Simon, 1980, p. 218).

In addition to categorizing verbal reports as introspective or concurrent, Ericsson and Simon (1984, 1993) made a distinction between reports that ask participants to verbalize their thoughts only and those that ask participants to verbalize additional information such as explanations and justifications for their thoughts. Following Bowles and Leow (2005), I will refer to the verbalization of thoughts per se as *non-metalinguistic*, and verbalization of explanations or justifications as *metalinguistic*.

From the study by Johnstone *et al.* (2006) I inferred an additional type of data which has not been explicitly mentioned or discussed in any detail in most of the literature on TAM. These data are different from the post think aloud verbalizations yielded retrospectively by participants in a study, for they are processed by the participants themselves in *written* form. For example, when the students in the Johnstone *et al.* (2006) study completed an item, they were asked non-scripted follow-up questions based on events that arose during the think aloud verbalization for clarification. Participants were asked process questions such as “How did you solve that?” (when the student did not adequately verbalize) and questions or prompts such as “Was there anything that confused you?” (When a student spent several minutes on a sub-section of an item) and they were required to produce metalinguistic responses in written form showing how the problem was solved. There is some resemblance with retrospective data collection (Ericsson and Simon, 1979, 1980, 1984, 1993; Pressley and Afflerbach, 1995; Ericsson, 2006) but there is no mention of written material by these authors. However, these process questions can help the researcher to collect data that could otherwise be lost forever from participants such as occurred with those in the Johnstone *et al.* (2006) study. There is also the danger of collecting biased data

given that participants may remember to add and/or may omit information or even over-describe the process given that they have the freedom to write about the process. I deal with this issue when I talk about advantages and disadvantages of TAM below. I summarise the three kinds of TAM below

Table 24. Types of data yielded from TAM

Type of Data	Example
Introspective or concurrent	Student [subject or participant] thoughts as they attempted to solve items
Retrospective	Student [subject or participant] perceptions of solving items after they were completed
Process	Student [subject or participant] written material that demonstrates problem-solving process

(adapted from Johnstone; Bottsford-Miller and Thompson, 2006)

7.4. Advantages and disadvantages of TAM in SLA and FL Reading Research

A key advantage claimed for concurrent verbalizations is that neither participants' thought processes nor their task performance are changed (Ericsson and Simon, 1993; Ericsson, 2006, p. 228). The level of accuracy of performance is not altered during think aloud methods even when the performance is compared to that of other individuals who complete the same tasks silently (Ericsson and Simon, 1993). A second advantage is that most non-visible and audible processes can be verbalized concurrently and/or retrospectively by participants when performing a task. Data collected according to this method is deemed a true and immediate representation of individual cognitive processes. In this context TAM have provided language acquisition researchers with information as to the types of strategies employed by learners when interacting with L2 tasks (Yoshida, 2008). In particular, verbalizations have generated insights as to what types of input induce most noticing, and what types of cognitive processes can be accessed by particular types of verbal reports. As reading is normally a silent, hidden process, and researchers cannot determine with any accuracy what is happening in cognitive terms by simple observation or by product-based assessment (Yoshida, 2008), asking readers to provide verbal reports or

protocols on their reading process, whether retrospectively or concurrently (Dominorsky, 1998; Ericsson and Simon, 1980, 1993), becomes the most direct and suitable way to access this process. Furthermore, Think Aloud Methods provide detailed descriptions of task-induced reader behaviours and complexity in reader's thoughts (Afflerbach, 2000).

A second advantage that is claimed for the use of TAM in cognitive strategy research (when compared to interviews) is that they cancel out the time gap between processing and reporting, i.e. readers can report their thoughts while simultaneously being involved in the target task (Yoshida, 2008) and, as has been mentioned, this does not affect task performance when they are engaged in concurrent verbalization (Ericsson and Simon, 1993); on the contrary, Ericson and Simon (1993) and Ericsson (2006) assert that the true and immediate representation of individual cognitive processes has been known to improve participants' comprehension, memory, and learning even when indications of changes were present.

One other advantage of TAM is the sample size. In TAM the data can come from a small sample of participants. Additionally, unlike large questionnaire or psychometric research projects, TAM samples are not selected randomly; they are purposive and representative of particular subsets deemed important to the project (Kopriva, 2001). Moreover, unlike other methods such as strategy questionnaires, interviews (structured and semi-structured with open and closed ended questions), eye-movement indices, and oral reading, TAM gives almost total freedom to the participant to verbalize his/her thoughts and she/he is only restricted when long pauses are observed and the researcher provides prompts for more verbalizations without posing a direct question. The richness of language generated in this process (or lack thereof) of verbalization 'are the greatest assets and liabilities of the verbal reporting methodology' (Pressley and Afflerbach, 1995, p. 2).

TAM have been used to study reading processes to find out how readers engage in a variety of literacy activities, how readers of varying abilities adjust to different types of text (Pressley and Afflerbach, 1995), for evaluating test design and its effects on student test-taking processes, student understanding of constructs, student skill level, relevance of items to student life experience, and relevance of items to content taught (Kopriva, 2001). Another set of studies investigated construct fidelity, potential bias, possibilities for accommodation, comprehensibility

of instructions, general comprehensibility, readability, and legibility of items (Thompson, Johnstone, and Thurlow, 2002) to aid test producers in understanding how test design affects student performance of tasks in reading exercises. Results from these studies and the groundbreaking papers and studies by Ericson and Simon (1981, 1983, 1984, 2002) have helped in identifying a set of setbacks, i.e. level of data accuracy, that need to be understood to validate or not thereof TAM as a research tool.

The disadvantages of TAM in terms of the level of accuracy of data can be grouped into six main areas: time on task, researcher effect, access to short term memory, cognitive load, recording and transcribing time, and lack of clear steps to transcribing data. Since some of the above issues overlap with aspects linked to veridicality and reactivity, issues of veridicality and reactivity are dealt with separately in the next section.

First, some very few studies have shown that ‘participants who think aloud take somewhat longer to complete the tasks – presumably due to the additional time required to produce the overt verbalization of the thoughts’ (Ericsson, 2006, p. 228) but not the end result of the task. As a matter of fact TAM verbalizations are time-consuming and labour-intensive when participants work for an hour or hours to verbalize their thought processes and this may slow down the process of task completion. It should be stressed here as does Ericsson and Simon (2002) that the act of verbalizing subjects’ thought processes do not change the sequence of the thoughts per se, and being this the case, no subjects’ task performance should change when TAM is used. Ericson and Simon (1993) reviewed comprehensively a dozens studies and found no evidence that the sequences of thoughts (accuracy of performance) were changed when subjects thought aloud as they completed the tasks, compared to subjects who completed the same tasks silently. They however saw that some studies showed that the subjects in TAM took somewhat longer to complete the tasks for the reason asserted above (see Ericsson, 2006). Hence it is advisable to have a small sample size that can still provide valid information (Nielson, 1994) does minimizing time factor.

Second, in relation to researcher effect, there is a potential danger in terms of data accuracy or value in both concurrent and retrospective verbalizations in the instructions given by the researcher to a participant to explain the reasons behind the resolution of a problem and

description of the content of thought. These additional instructions and/ or questions (**Wh**-questions) are reliably associated with changes in the accuracy of observed performance (Ericsson and Simon, 1993).

Third, here the major concern relates to accessing short-term rather than long-term memory and to cognitive and linguistic loads. Although it is not easy to collect data from the short-term memory, this is seen as preferable because thoughts generated from the long-term memory are often affected by participants' perceptions. Ericsson and Simon (1993) argue that once information enters the long-term memory, participants may incorrectly describe the processes they actually used at the time to respond to a task while verbalizations that take place concurrently with cognitive processes are to a large extent free from interpretation by participants (Van Someren, Barnard and Sandberg, 1994). However obtaining data in real-time can be a dilemma for the researcher due to incoherent utterances (Ericsson and Simon, 1993). Because informants know more than they can tell, while they tell more than they can (Nisbet and Wilson, 1977), it is crucial to exercise care when concurrent thought verbalizations are being recorded: the researcher must make sure that all incoherent concurrent verbalizations are noted and that attempts at eliciting better verbalizations are made through retrospective data collection. In addition the researcher must at all costs avoid interrupting and/or asking many questions, attempting instead to prompt participants using neutral cues. More articulate responses can generally be drawn from interviews which take place after the think aloud protocol is completed, i.e. retrospective data collection.

Fourth, the major concern is that the cognitive load of problem solving and speaking simultaneously may be too great for some subjects (Branch, 2000). The use of retrospective data collection can mitigate the impact of this, and the use of post-process questions with such participants can also provide valuable information, which may facilitate the interpretation and understanding of the data (Branch, 2000; Fonteyn, Kuipers and Grabe, 1993).

In view of the above, a two-step TAM process appears to be a practical one to handle the data collection: researchers may first collect data in real time, probing participants as infrequently as possible to avoid distraction during problem-solving activities (Ericsson and Simon, 1993). When faced with moments of silence that last for several seconds (considerable enough to be

deemed long), the researcher may then prompt the participant to “keep on talking” without any direct or indirect questions such as, “what are you thinking?” or “tell me about X or Z”. The purpose of neutral prompts is to encourage the participant to continue verbalizing aloud his/her thoughts and not, for example, to add ideas external to the thought processes of the participant. Researchers can pose follow-up questions once the thought verbalization is finished. The answers to these questions supplement any unclear data but are not necessarily deemed to be the primary data source, as Branch (2000) puts it.

One other issue linked to data treatment is the time that recording and transcribing verbal protocols entails and the lack of clear steps to follow concerning the transcribed data to be analyzed (Whitney and Budd, 1996, p. 344). The researcher has thus to generate his or her own transcription steps, coding, marking, etc., and this may lead to varied interpretations if data is analyzed by another researcher; this situation is exacerbated if the data has not been video or audio-taped. Failure to electronically record the data may result in the invalidity of the data: a time lapse may corrupt the evident actual knowledge, assertions, and observations noted at the time of the TAM and result in several inadequate or inaccurate interpretations. An additional potential danger in terms of distorting the data is that data from one researcher, if not video or audio-taped, cannot be considered valid if used by another researcher. A number of researchers’ individual coding, marking, etc leaves this type of data open to endless possibilities of interpretation - one the few loopholes and points of concern in TAM.

A key point of contention when using TAM relates to the extent to which verbal protocols provide a full picture of cognitive processing (Nisbet and Wilson, 1977). This appears to be a particular threat when the text being read is “so easy that reading activities are automatic and inaccessible to verbalization” (Yoshida, 2008:200). A related problem noted by Leighton (2004), cited by Johnstone *et al.*, (2006), is the difficulty of obtaining meaningful data from items that are too challenging for participants. A further criticism of TAM is that processes observed with the use of thinking-aloud are limited to conscious and automatized processes (Yoshida, 2008; Smith and King, 2013). There are some processes that readers are not aware of or do not attend to while thinking aloud and thus cannot be reported. Consequently, data resulting from the process of elicitation are deemed to be incomplete reports, and poor

reflections of cognitive processing (Nisbet and Wilson, 1977; Ericson, 1983). It is advisable to have post TAM interviews to elicit as much data as possible.

An additional concern which is of particular significance in bi- or multilingual contexts has to do with the capacity of participants to express themselves and the differences in the linguistic and speaking competences of individuals (Smith and King, 2013). Those with well- developed language skills in both the target and language of instruction will provide different, if not more intelligible, accounts of the task than others with language shortcomings and thus their perception of a task and the way they perform it may result in faulty or inaccurate reporting. However, faulty or incomplete reporting can also be the result of frequent interruptions – in cases where the researcher prompts at inappropriate moments or may ask *wh*-questions, and in dissonance with the instructions of TAM use, and a consequent heavy cognitive load (Selinger, 1983; Stratman and Hamp-Lyons, 1994) as I had already mentioned above.

To conclude, as Pressley and Afflerbach (1995) commented in the 1990s, despite the controversies surrounding it described above, ‘think aloud methodology is still maturing with much interesting work already accomplished and considerable work to be done’ (Pressley and Afflerbach, 1995, p. 1). In fact TAM has been deemed a valid research tool by cognitive researchers and practitioners despite issues raised around veridicality (Smith and King, 2013). In the next section I look at issues concerning the reactivity and veridicality of TAM.

7.5. Reactivity and veridicality of verbalized reports from Think Aloud Methods

Despite criticisms of Think Aloud Methods in the 1980s and 1990s, such as those mentioned above , TAM’s popularity continued to grow during that period (Cohen, 1996). Nevertheless there have been and continue to be ongoing concerns with the veridicality and reactivity of verbal protocols.

In my search to understanding the terms *reactivity* and *veridicality*, I was baffled by the absence of straightforward definition in the literature. Reactivity had been long proposed by Ericsson and Simon (1993) and also appears in earlier work on TAM in a subtle manner. I found, in the course of my quest a possible definition of reactivity, namely ‘the impact verbalizations may

have on the way participants handle tasks, the time it takes them to carry out tasks, and their eventual success in task completion' (Maaïke, Memmo and Schellens, 2003, p. 339). The impreciseness of the consequences and/or real impact does contrast with what most studies and reviews of TAM have yielded.

For instance, Ericsson and Simon (1981, 1983, 1993) had argued that the TAM methodology is a valid one for research and that the data yielded does not interfere with participants' cognitive and reading processes while they are engaged in resolving problems/tasks, as I have mentioned above. Although, as already mentioned, frequent interruptions or a heavy cognitive load have also been claimed as sources of possible changes and disruption of learners' cognitive and reading processes, resulting in incomplete reporting (Selinger, 1983; Stratman and Hamp-Lyons, 1994, in Yoshida, 2008); these factors are not seen by researchers such as Ericsson and Simon (1981) and by more recent cognitive researchers as being of major concern (Ericsson and Simon, 2006; Yoshida, 2008; Smith and King, 2013). Ericsson and Simon (1981) claimed that, 'in a review of studies, mostly in L1, comparing subjects thinking aloud with subjects performing the same tasks silently, we found no differences in such measures of cognitive processes as success rate, methods employed, or speed of performance, [...]' (Ericsson and Simon, 1981, p. 3).

There are, however, some exceptions to the findings mentioned above. For instance, 'in tasks where subjects used non-verbal codes in their thinking', that is, in tasks with a large visual perceptual component, performance 'was slowed down somewhat in the verbalizing conditions' (Ericsson and Simon, 1981, p. 3). Despite this, reactivity in terms of speed, time and successful task completion does not seem to be a major problem in think aloud methods. Overall, Ericsson and Simon (1979, 1980, 1981, 1993) found no reactive effects for think alouds in L1 research.

Reactivity can then be explained better, perhaps, if one uses what Leow and Morgan-Short (2004) and Bowles and Leow (2005) have defined as the act of thinking aloud potentially triggering changes in learners' cognitive processes while performing the task. The issues here is the term *potentially* and not necessarily the uncertainty shown above by Maaïke et al. when they use terms like '*may have*' and '*their eventual success in task completion*' (2003, p. 339). As can it be seen also, the definitions revolve around L1 and as such Leow and Morgan-Short (2004) and Bowles and Leow (2005) call for the fully understanding reactivity effects of thinking-aloud on L2 reading comprehension and processes, especially those related to the type

of task readers engage in while reading – one the aim of PhD study and of Part II paper, a follow up paper to present as mentioned above. The need to fully investigate these impacts is crucial for L2 and or EFL studies.

As for veridicality, one can say that this appears to be associated with validity and the ‘probability that processes underlying behavior may be unconscious and thus not accessible for verbal reporting ...’ and to the ‘possibility that verbalizations, when present, may not be closely related to underlying thought processes’ (Ericsson and Simon, 1993, p. 109). Thus, in terms of veridicality in a cognitive process study, certain factors may be said to come into play to the disadvantage of TAM. One of these factors is the automation of processes which do not often allow for the provision of a full picture of the cognitive process especially when the text being read is so easy that reading activities are automatic and inaccessible to verbalization (Yoshida, 2008). Another veridicality issue is linked to the limited nature of verbalizations observed –using TAMs; verbalizations are limited to the conscious processing of tasks that the participants can verbalize (Lyons, 1986; Leow and Morgan-Short, 2004; Yoshida, 2008). This automation is coupled with another factor, that of a hidden automated process that participants do not tend to and/or do not report, resulting in incomplete data and having the potential to reflect poor cognitive processing of tasks (see Lyons, 1986). As mentioned above, the relative ease with which participants are able to verbalize their processes, or not, due to their level of language skills development, is another factor to be borne in mind. Because individuals develop oratory skills differently, depending on various individual factors and histories, they tend to provide different levels of reporting on thoughts and cognitive processes, and this may be exacerbated by their individual capacities to perceive the task accurately and to perform it successfully. Aspects of gender, personality, social milieu, and previous experience also play a role in the ways in which individuals perceive a task and their reporting on their cognitive processes. The provision of verbalizations is thus not immaculate or infallible, and as such can produce degrees of faulty or distorted data.

In the following section I discuss key issues with regard to reactivity and veridicality in second or foreign language research.

7.6. Reactivity and Veridicality in SLA and FL Research

Yoshida (2008) sees SLA research as having benefited from TAM over the past few decades. He reports that TAMs have been used in SLA to ‘observe the cognitive processes involved in the use and acquisition of language’ (p. 199) and that the major SLA areas in which think-alouds have been extensively utilized are Reading, Writing, and Testing, Language acquisition, Discourse research, and research on attention and awareness. Turning to the issue of reactivity in L2 acquisition, and the act of thinking aloud potentially triggering changes in learners’ cognitive processes while performing a task, results of recent studies (Leow and Morgan-Short, 2004; Bowles and Leow, 2005) seem to corroborate the initial question posed by Ericsson and Simon (1981): whether the assumption of non-reactivity is applicable to tasks in SLA.

In order to answer this question, I resort to Leow and Morgan-Short’s (2004) study as discussed in Yoshida (2008), where there is clear mention of TAM being used in SLA research to observe the cognitive processes taking place in the use and acquisition of language. There is also clear mention of other major variables in SLA that have been studied using TAM, and these match the list of areas in which think-alouds have been extensively utilized, as presented at the beginning of the current section. Think-aloud methods have provided language acquisition researchers with information about the types of strategies employed by learners when interacting with L2 tasks, the types of input that induce most noticing strategies and skills in reading comprehension on the part of participants, and the types of processes that can be predicted by a particular type of verbal report. However, the question that needs to be asked is whether reactivity has been clearly addressed in such studies. The answer to this is inconclusive at this stage.

The reactivity effects of thinking-aloud on L2 reading comprehension and processes have not as yet been fully investigated in terms of the specific types of tasks or cognitive processes in which second or additional language readers engage while reading. One relatively recent study by Bowles and Leow (2005) that addressed this issue investigated the differential effects of types of verbalization (non-metalinguistic and metalinguistic) with more advanced language learners. The results showed that there was no significant reactivity given that none of the think-aloud protocols caused reactivity in general, but that metalinguistic verbalizations appeared to cause a decrease in text comprehension (Bowles and Leow, 2005). While these findings gave rise to speculations by these scholars pointing to the idea that reactivity varies according to task type,

text variables, and individual differences, Yoshida (2008) calls for further research to clearly determine the veracity of these findings and speculations.

In addition, verbalizations from thinking aloud have not been conclusively found to lead to a reliable change in the cognitive process, specifically with regards to the accuracy of response to any given task. Consequently, there is ‘no empirical evidence that the kinds of reports [above mentioned] will fail to reflect what the subject is actually heeding or has just heeded’ (Ericsson and Simon, 1981, p. 5).

Another issue in the context of reactivity relates to individual linguistic competence and the ease with which individuals are able to verbalize their thoughts. Participants’ perceptions about the task may also differ and, as has been mentioned, gender, personality, and previous experience are other variables with which researchers need to engage to better and more fully comprehend what contributions these make to the verbalization process, and to use this knowledge to improve SLA learning and teaching processes. As I have experienced in my doctorate studies, one of my concerns with reading comprehension test results and their relationship with participants’ text comprehension mean I found that a possible misinterpretation of instructions (language competence) may have influenced the outcome and female participants performed rather better than their counterparts (See Cabinda, 2013; 2014). Some of these aspects are explored further in Part II of the present paper.

For EFL academic learning contexts therefore, TAM seems to offer the potential to illuminate reading processes, the usage of reading skills and strategies and the hidden actions that occur while reading, task resolution in construing meaning from text, and even the hidden reactions of learners to task taking. However, care needs to be exercised in the use of TAM in this context, for as Ericsson (2006, p. 228) cautions, when participants explain why they are selecting actions or have to describe carefully the structure and detailed content of their thoughts, they ‘are not able to merely verbalize each thought as it emerges, they [...] engage in additional cognitive processes’ that result in the generation of thoughts that match the ‘required explanations and descriptions’, but at the same time can result in changes to their thought sequence.

With regard to the issue of veridicality, SLA research has been grappling with issues of whether veridicality of retrospective data is trustworthy or not. Data retrospectively collected has been

questioned as representing a true reflection of the cognitive processes applied by a participant verbalizing his or her thoughts at the time of taking the task (Leow and Morgan-Short, 2004, p. 49). These authors have battled to provide evidence and convincing arguments for the reliability or veracity of retrospective data and the question continues to linger; retrospective protocols cannot as yet be seen as being accurate reflections of cognitive processes employed by participants while interacting with L2 data. They call for more combined research on veridicality, validity, reactivity and reliability involving L2 participants, where stimulated recall procedures can be used in an effort to document learners' cognitive processes while engaged in a previous L2 interaction with another person. Their plea is echoed by Johnstone *et al.* (2004), together with others mentioned by them, for example, Gass and Mackey (2000), and Leow (2002), who have pointed to the existence of memory decay or double-input exposure as variables in need of exploration, and thus the need for more empirical research on veridicality to confirm assumptions and claims made for it in the SLA field. For instance, there is in SLA a concern associated with the adequacy of the language skills of the participants to verbalize thought processes: some individuals may not be capable of accurately explaining or verbalizing due to language or other problems, which may result in inaccurate verbalizations in both concurrent and retrospective processes. This issue is particularly important where TAMs are used in second or foreign language reading; it is difficult to decide with any certainty whether a problem with verbalization is a reading task-related or a processing problem, or even a language needed for verbalization of a problem. The issue of text and/or task familiarity or simplicity can also be problematic in the sense that participants can guess solutions (to easily solvable issues) and appear to accurately verbalize their reasoning behind the resolution. However, care should be taken not to confuse their reasoning behind the resolution as this may not be a true reflection of the entire, or part, of the cognitive process that may have occurred.

Recently, Smith and King (2013) expanded the discussion concerning veridicality and present an analysis in a review in which they highlight in summarized form the issues which cognitive researchers need to consider carefully when using TAM as a research tool. For instance, they call to the attention of researchers the recommendations related to the veridicality of verbal protocols made in the 1980s and 1990s by researchers such as Ericsson and Simon (1984, 1993). Here they remind scholars in the field of the tendency of researchers to adhere to those recommendations linked to 'concurrent protocols, the elicitation of responses concerning current processing' and

their tendency towards ‘the avoidance of requiring participants to provide verbal explanations’. In their review Smith and King (2013) show evidence indicating the failure of researchers to slow down processing, to consider variations in participants’ verbal abilities within interpretations of the data, and to predict the probable contents of participants’ self-reports (Smith and King, 2013, p. 715). They alert researchers to the fact that the failure of researchers and theorists to take into account and observe the above within a cognitive framework may result in ‘protocols with embedded erroneous data’ (Smith and King, 2013, p.716) resulting in problems of veridicality.

Fundamentally in their discussion, Smith and King (2013) show that TAM is still a valid data collection tool but alert researchers using it to three fundamental arguments related to the presence of non-veridicality in verbal protocols of language learners (LLs), in which the assumption is that veridicality of verbal reports is present when verbal output matches mental operations, and the contrary, when this is not the case. In both these contexts non-veridicality is theorized to stem from two major types of errors involved in the data elicitation process, i.e. errors of omission and commission (Russo, Johnson and Stephens, 1989) and an error labeled by Smith and King (2013, pp. 715-6) as ‘the presence of language(s) as an inherent variable’.. Given that language(s) are an inherent part of my study and that the participants are multilingual and are communicating within and dealing with a multiplicity of contexts and language competences issues, this aspect is of utmost importance to the study. The issue I need to address is whether I have omitted, or left aspects of language(s) *undealt* with in the process of collecting data in my doctorate study. The validity of the issues raised by Smith and King (2013) is crucial for research focusing on validating the effective use of cognitive and metacognitive reading strategies, including support strategies, by FL learners. As I have pointed out above, veridicality seems to be associated with validity one can then advance that the dilemma is that no claim regarding veridicality, hence validity, can be made unless the data has been collected, processed and considered valid to posit adequate and useful propositions.

Using my study as an example, I have followed some of the recommendations and used TAM and primarily concurrent (introspective) verbalizations, only using retrospective verbalizations when needed (with one participant) as per Ericsson and Simon (1984, 1993). This aided in ensuring rigour and veridicality in my use of TAM. However, the issues related to veridicality

and non-veridicality, as touched on in the studies mentioned above, need to be elucidated for them to be of value in any search, via empirical studies, for alternative approaches to systematic exploration of the ways in which LLs' reading processes constitute social, linguistic, and cultural artifacts as they construct meaning in the context of literacy within the 21st century (Smith and King, 2013). As these processes are interlinked I have thus borne in mind the terms to maintaining rigor and veridicality in the use of TAM data collection as recommended by Ericsson and Simon's (1984, 1993) works.

Smith and King (2013, pp. 711-715) have extensively and critically analyzed these recommendations and I refer briefly to the main aspects of each – some mentioned in the sections above, as they relate to my doctorate study:

A. Increase Representativeness of Thought through Concurrent Protocols. Ericsson and Simon (1993) recommend the use of concurrent protocols and reports based on verbal cognitions to augment the possibility of deriving protocols with reflections of thought process verbalized by participants. I have, in accordance with several studies mentioned by Smith and King (2013), paid primary attention and given weight to concurrent verbalizations.

B. Slow Down Processing. Ericsson and Simon (1993) clearly underline the importance of slowing down automatized processes. 'End-of-paragraph prompting' for verbal protocols is essential in order to sufficiently interrupt otherwise automatized processes. Smith and King (2013) do not see this as interfering with the concurrent verbalization process, although Ericsson and Simon (1984, 1993) recognize that fully automatic processes such as reading are hard to self-report and thus recommend the use of retrospective protocols without seeing this as representing a contradiction of their initial recommendation (use of concurrent verbalizations), where participants have to specify their thoughts in response to the specific signal which had previously interrupted the automatic process (i.e., reading). However, a researcher following a concurrent verbalization process needs to be aware of deliberately not encouraging participants to 'provide descriptions or explanations of their processing' (Ericsson and Simon, 1993, p. 109). In accordance with other SLA studies mentioned by Smith and King (2013), in terms of this particular recommendation I recognized the importance of participants' slowing down the automated process of reading, as well as their intent to preserve comprehension through the use of complementary protocol formats; the use of immediate retrospection with at least with one

participant, as recommended by Nassaji (2003), Upton and Lee-Thompson (2001), Wesche and Paribakht (2000), and other research methods (Smith and King, 2013, p. 713).

C. *Emphasize Process over Product.* There exists a potential for researchers using verbalizations to collect and process data to give prominence to the products of cognitive or thought processing rather than to the awareness on the part of participants about their own thought processes (Ericsson and Simon, 1984; 1993). In this context, as Smith and King (2013) demonstrate, many studies, even those which are fairly recent, have been product-oriented (Abbott, 2006; Bengeleil and Paribakht, 2004; Chun, 2001; Daalen-Kaptein; Elshout-Mohr and de Glopper, 2001; Dressler, Carlo, Snow, August and White, 2009; Gascoigne, 2002; Nassaji, 2003; Paribakht, 2005; Lee-Thompson, 2008) and involved products and/or tasks that were inclusive of drawing inferences, answering questions, and retelling. Recent studies more consistent with a process-oriented approach, and which would seem to have heeded Ericsson and Simon's (1984; 1993) cautioning regarding prominence of product over process, have investigated reading difficulties and cognitive and metacognitive strategies deployed by bilingual students while reading. These studies include Alsheikh (2011), Geladari *et al.* (2010), Stevenson, Schoonen and de Glopper (2007), Upton and Lee-Thompson (2001), Wesche and Paribakht (2000), Yang (2006) and Zhang, Gu and Hu (2007), (in Smith and King, 2013, p. 714). These studies focus on how studied participants understood the meanings of words and employed reading strategies for their understanding of text. According to Smith and King (2013), the danger inherent in giving prominence to product rather than process is that, for the participants there is a 'greater likelihood that the verbal protocols would reflect the anticipated task rather than be a representation of their awareness of the ongoing reading process' (Smith and King, 2013, p. 174). However, as asserted by the authors, Ericsson and Simon (1984; 1993) have not explicitly stated that process-oriented tasks would place a greater burden on the participant to report the process. And as such, Smith and King (2013) hypothesize that this should have been the case.

In conclusion, they posit that 'the research tasks should be geared towards maximizing the probability that the verbal protocols obtained during the reading process would be most representative of that participant's processing, and, therefore, process-oriented studies would more than likely be the norm than would those with product-influenced protocols' (Smith and King, 2013, p. 714). This was the key aspect informing my PhD methodology study, and the core

of the aim of the study: to establish whether reading is to be understood as a process or a product. My study has focused on the former.

D. Tap Current Processing. Attention is drawn here to researchers consciously not soliciting participants to provide a generalized description of their processing across trials. In this context Smith and King (2013, p. 715) warn of the ‘possibility that conscious attention would be placed only on operations involved in earlier trials of the verbal reporting process’ and observe a ‘general adherence to this recommendation’ by all but one study, Wesche and Paribakht (2000) out of the 20 studies they reviewed. On the basis of these studies they considered that non-observation of this cautionary rubric would render the data of dubious veridicality given that the results would likely be affected by participants’ predisposition to report information concerned with their initial word learning tasks.

E. Direct Participants to Provide Non-explanations. This directive is related to the nature of the directions provided by researchers to participants of a given study that uses TAM, and these directions, as Smith and King (2013, p. 715) put it, ‘should be such as to discourage participants from providing descriptions or explanations of their processing as reports of intermediate and final products of processing....’. They corroborate the suggestion that such directions can be open-ended or can be framed to encourage participants to ‘report on a specific type of information in their working memory’ (Ericsson and Simon, 1984; 1993, pp. 10-11). As descriptions or explanations of cognitive processes constitute certain introspective protocols, as noted by Smith and King (2013, p. 715), researchers should give prominence to concurrent verbalizations as recommended above, given that these result in data collected as close to real time as possible, and during task completion, and are closest to actual thought processes. Thus Smith and King (2013) warn of the danger of having non-veridical data if the above concurrent verbalization protocols are not observed. Smith and King (2013, 2013, p. 715) emphasize that researchers should recognize that *directions impact the nature of reports* and that they should be willing to acknowledge this impact on the presentation of their findings.

F. Consider Participants’ Verbal Abilities to Generate Verbal Protocols. This sixth recommendation made by Ericsson and Simon (1984; 1993) relates to differences in individuals’ abilities to produce think-aloud protocols, and that an aspect to be borne in mind by researchers is the possibility that an increased general verbal ability could provide individuals with an

advantage when reporting verbal protocols. The ways participants vary in their linguistic competence, their background knowledge relative to a target text, and their specific individual experiences in the interpretation of texts is of paramount importance in TAM studies (Smith and King, 2013) and, as these scholars put it, this applies ‘not only with regards to their ability to verbalize, but in relation to their background experiences as individual language learners (LLs)’ (Smith and King, 2013, p. 715). As has been noted, this issue is a problematic one and Smith and King (2013, p. 715) argue that researchers do not clearly address the language competence of participants as a factor in TAM, and seem to be ‘oblivious to the nuances between individual participants as they undertake a myriad of reading tasks’. They argue that researchers using TAM tend to refer to the linguistic status of a participant as either a Spanish, English, Portuguese or French student, for example, or mention his/her current level of linguistic competence according to a rigid and/or narrow classification system. They draw attention to the fact that crucial information such as a an individual participant’s first exposure to the L1, L1 learning period or experience, languages spoken at home and/or in other countries; language of instruction is not mentioned and these variables in fact significantly affect participants’ abilities to verbalize thoughts in conjunction with reading tasks (Smith and King, 2013). Both Bernhardt (2011) and Smith and King (2013) emphasize the importance of taking into consideration in any TAM research the fact that LLs may vary in their origin, come from diverse and multiple language backgrounds, and that their experiences with the language(s) may bear little resemblance to one another, and thus attention should be paid to these variables so that veridicality issues are minimized and ‘interpretation of the protocol data might be allowed to reflect these differentiated abilities’ (Smith and King, 2013, p. 716).

G. Predict Study Participants’ Self-reports: one final recommendation by Ericsson and Simon (1984; 1993) is focused on researchers being able to predict the ability of the participants to self-report while they are completing (or attempting to) a task. In this context great importance is placed upon the researcher’s ability to foresee what set of prior knowledge the participant might possess and thus ‘anticipate the procedures in which a study participant might engage to arrive at a particular solution to the task parameters’ (Ericsson, 2003,p. ; Smith and King, 2013, p. 716). Here the researcher engages in task analysis to define the probable sequential elements of a task which may result in a probable set of possible thought sequences for its successful performance. As Smith and King (2013) observe, there is mention in some studies of expected responses

(strategies, inferences) from study participants (examples being the studies by Chun, 2001; Bengelil and/or Paribakht, 2004; Lee-Thompson, 2008), but none of the studies provided task analysis as ‘an indication of the probable and possible sequences to be expected for alternative procedures in a task or a given series of tasks’ (Smith and King, 2013, p. 716). Citing Ericsson (2003) with reference to mathematical tasks used for illustrating task resolution sequencing, Smith and King (2013, p. 716) conclude by suggesting the probability of a similar procedure being followed to ‘appropriate a method for determining predictability of verbal protocols of reading, in an effort to enhance veridicality’. I would suggest this not to be the case in SLA/EFL context like mine, given the multiplicity of contexts, backgrounds, dialects, age and possibly gender and not to mention the unequal and inequalities in competence levels in various schools providing similar courses. However, as I have mentioned above and elsewhere in my doctorate study, reading comprehension and strategies in FL have yet to be widely investigated, especially at university level and adult learners.

Thus using a mathematical model to determine predictability of verbal protocol verbalizations in reading (in EFL contexts), and enhance veridicality as concluded above could hinder the probability of adequate and true results from TAM. In fact this is a major concern in this context according to Smith and King (2013, pp. 716-718). They state that language as an inherent variable has been neglected in most L2 studies and the dearth of attention to this may be a source of veridicality issues. They focus their argument on the value of verbal reports with second language learners and consider them to be the “elephant in the room” issue. They make reference to lack of control of language as a variable in several studies, which seem to use mostly monolingual LLs (examples are reviews by Ericsson and Simon, 1984 and 1993, and Pressley and Afflerbach, 1995). What needs to be borne in mind are issues of the credibility or reliability of verbal reports due to the second language learners’ linguistic abilities that may further ‘confound representation of memory processes’ (Smith and King, 2013, p. 716). The complexity of engaging in this process is illustrated by Ericsson and Simon (1984; 1993) who argue that individuals who are fluent in a second language will usually verbalize in that L2 but will be thinking internally in the oral code of their native language or in non-oral code, and as such there will be (almost) a one-to-one mapping between structures in the oral code of the first language and the code of the second language that is used for vocalization (as cited in Smith and King, 2013, p. 717). I permitted the participants in my study to verbalize in any language, i.e. the

target (English) or native (one of the Bantu languages for some) or the lingua franca (Portuguese for all) and certainly I am aware of the constraints that come with this. For instance, as Smith and King (2013, p. 717) point out, ‘the challenges inherent in reading and performing a task in a second language (usually English), subsequently conducting interpretation through the native language, and deciding whether to revert back to English or to relay the contents of memory in the native language are significant and do influence the composition of protocols’.

Thus, since language is an additional inherent variable in L2/SLA/LL research, and this seems to have been neglected, there is a need to do further research in the field and to propose TAM verbalization procedures and/or trends that may render verbalized data validity levels that may not be questionable, given that language dictates the linguistic product of such learners, and therefore any attempt to verbalize reports not only undergoes transformation during verbalization, but also experiences alteration due to linguistic interference and, as Smith and King (2013) argue, ‘the language task required, and the demand to verbalize that task, find themselves competing for the linguistic capacity, ultimately affecting completeness (omission) *and* accuracy (commission) of the verbal protocols’ (Smith & King, 2013:717). As I mentioned above, the question that needs to be asked at this stage is whether, in the course of my research, I omitted, or left *undealt* with, certain aspects of language(s) when collecting my data. I would argue that the answer to this question is that I have observed most of the cautionary rubrics offered by Ericsson and Simon (1984; 1993), and unpacked and discussed by Smith and King (2013) in their review. Evidence of the use of observance of these is presented in the methodology section (chapter 3) and in the present chapter.

7.7 Empirical studies and the Procedures

The previous section presented a discussion of issues related to the veridicality and reactivity of the TAMs and indicated that, while the methodology has considerable advantages, there are some grey areas that need to be further addressed. In this section I provide more examples from empirical studies that have been carried out using the Think Aloud Methodology. I also explore the types of procedures to be considered when using this methodology.

7.7.1 Empirical studies

In this section, in an attempt to shed some light on some of the grey areas around TAM, I briefly present some examples of empirical studies that have used TAM to correlate veridicality and reactivity in task completion and reading process, and involving issues related to the use in L2 of cognitive and metacognitive reading strategies.

Yoshida (2008) conducted a study which tested the speculations of Bowles and Leow (2005) that reactivity varies according to task type, text variables, individual differences, and mixed results about reactivity in relation with task effects shown in the subsequent studies. Yoshida's (2008) aim was to investigate the reactivity effects of thinking-aloud on L2 reading in relation to the type of task which L2 readers engage in while reading. His sample consisted of sixty-four participants, who were fourth-year university students in Western Japan and all English majors with an English language proficiency level considered to range from intermediate to upper intermediate levels (56.6 points on average, out of 80 with scores ranging from 75 to 33 on the reading section of the Michigan Placement Test), and with a homogeneous educational background; none had spent more than one year in a foreign country.

Randomly selected participants were assigned to either a think-aloud or a non-think-aloud group. An independent *t*-test showed no statistically significant difference in scores of English reading ability (Michigan Placement Test: Form C) between the think-aloud group and the non-think-aloud group ($p < .01$). There were 31 participants in the think-aloud group and 33 participants in the non-think-aloud group. The study used an expository text and the passage was selected from part of a series of rapid reading activities in an ESL reading text, *More Reading Power* (Mikulecky & Jeffries, 1996). The expository passage (488 words; 40 sentences) was about deforestation, and had a Flesch–Kincaid Readability Index of 6.4 and a Flesch Reading Ease rating of 71.2.

The experiments suggested that those participants who thought aloud during a reading task recalled the passage equally as well as those who did not, regardless of the type of task they engaged in or the strategy they adopted during reading. The results also suggested that participants' long-term retention of the passage was not affected by either reading conditions or task type. These suggestions do in fact support the idea of non-reactivity. The results indicated

that in Yoshida's (2008) study think-aloud protocols did not cause reactivity effects on L2 reading in terms of recalled ideas but could possibly have affected performance in a written form as a while-reading task. The study offered new insights into L2 reading research by highlighting issues of non-reactivity in a while-reading process and task completion. Thus one could argue that Bowles and Leow's (2005) speculations concerning the issue of reactivity varying according to task type, text variables, and individual differences may have been proven to be correct in Yoshida's (2008) study, but with an adverse effect.

Vidal's (2002) study conducted with university Portuguese speaking students in Brazil is another example of a study using Portuguese version of a think aloud and a 50-item Strategy Inventory for Language Learning (SILL) (Oxford, 1990) (Paiva, 1997, in Vidal, 2002). The study is described in detail in 5.3, and the findings discussed in Chapter 6 (6.8.1) in terms of the relationship between participants' reported frequency of reported metacognitive strategy use and ratings of task performance on writing tasks within a communicative approach (CLT). . I noted the failure of the study to take into account a broad range of learning strategies that potentially contribute to efforts students make when learning an L2, focussing as it did on language learning/use strategies in writing tasks.

Vidal (2002:61-62) identified the following metacognitive strategies used by the participants: "I pay attention when someone is speaking English" and "I think about my progress in learning English" were those most used, and the lesser used ones were "I plan my schedule so I will have enough time to study English". The following indicates the kind of Memory strategies most used by participants: "I think of relationships between what I already know and new things I learn in English", while "I use flashcards to remember new English words" indicated the lesser used strategies. such affective strategies as, "I try to relax whenever I feel afraid of using English", and "I encourage myself to speak English even when I am afraid of making a mistake" were both said to be more frequently used, while "I write down my feelings in a language learning diary" was reported as never, or almost never, being used. These statements on the part of the participants in this study translate into the following reading strategies: cognitive, metacognitive, compensation and affective reading strategies, all of which were classified using the 50-item SILL (Oxford, 1990). Here Vidal (2002) refers to an umbrella term that congregates second language learning and second language learner strategy together to mean and encompass second

language learning and second language use strategies, both of which are seen as steps or actions on the part of the learner/reader to consciously select strategies to enhance learning or use of a second or foreign language (cf Cohen, 1998). A more recent reading strategies taxonomy, such as that of Sheorey and Mokhtari (2001), would at the time perhaps have provided Vidal (2002), with a clearer and more comprehensive picture of the various kinds of strategies used, or purported to be used, by his participants at the time the study was done. Vidal's (2002) use of out-dated yet still at the time relevant reading taxonomies (O'Malley & Chamot, 1990; Oxford, 1990) in the period from the 1990s to the early 2000s could have influenced the classification presented in the study which yielded the somewhat fuzzy picture Vidal (2002) presents at the end. In addition, Vidal's (2002) study appears to lack observance of Ericsson and Simon's (1984, 1993) A-G recommendations profiled above. However, while all of these shortcomings do not necessarily dismiss or invalidate the results of the study, it is nevertheless difficult to state conclusively what FL participants/learners these are (in the study) or to compare them to others, despite the clear association of language and reading strategy use.

The blurred picture of the relationship between reported frequency of strategy use and the ratings of task performance on writing tasks showed some successful students scoring high and reporting a high frequency use of metacognitive and cognitive strategies (2 participants), while another high scorer did not show indications of the usual use of metacognitive strategies, nor did this participant indicate an usually high or low use of Cognitive strategies, but instead used compensatory ones with a much higher frequency. Thus it can be noted that higher scorers did not reveal a corresponding pattern of use of reading strategies. This is further confirmed when other higher scorers (who scored even higher) claimed to always and almost always use both metacognitive and cognitive strategies (one participant) and another who reported using metacognitive strategies and compensation strategies usually scored even higher on cognitive strategies. This complex picture, which extends to other participants in the study, makes it difficult to set draw any conclusions as to what *exact* or habitual pattern of cognitive strategies higher scorers follow when processing text and comprehension and when performing task completion.

In Vidal's (2002) study the think aloud data resulting from an investigation of the extent to which language learning/use strategies (revealed through the think-aloud procedure concurrent

with the writing tasks) correlated with reported frequency of language learning strategy use, indicated an absence of a strong relationship. Metacognitive strategies were the most frequently used and correlated positively with reported strategy use, with a few exceptions (Memory strategies and Affective strategies were reported to be less frequently used, and no compensatory strategies were revealed, yet indicated to be frequently used in SILL). There was a more evident use of cognitive strategies compared to other types. To conclude, Vidal (2002) found that ‘the relationship between language learning/use strategies and ratings of task performance on writing tasks are complex to explain’ (Vidal, 2002:64).

Worthy of mention as being relevant to my study is Vidal’s observation of students who were more worried about producing form accuracy than meaningful texts, with whatever strategy they were using. Vidal’s (2002) study revealed the use by some participants of self-monitoring - a key process to distinguish competent or successful learners from poor learners. I observed this aspect in my study when participants worried about sentence structure and attempted to make out the correct meaning of words/lexical items or phrases and to find exact matches in Portuguese or in a Bantu language. In the process of doing this, comprehension of the text as a whole seemed to be left as a secondary concern or aim, and would probably account for the low mean comprehension results documented in Chapter 5 and task completion in Chapter 6. At the time it was not clear in my study if this behaviour indicated lack of language competence or of reading skills. At this stage I could suggest that participants tended to transfer their reading ability in L1 (Portuguese) to solve problems in L2 given their lack of mastery of the latter.

My final example is of a study conducted by Meng (2006), which used *think-alouds* to investigate the patterns of reading strategy use of both good and weak advanced EFL readers. It also sought to find out the impact of their having to engage with different text types and text difficulty levels on participants’ strategy use. Participants were classified as good and poor readers by the researcher and were asked to read twelve texts and verbalize their thought processes while reading. The sample consisted of sixteen advanced student participants studying English as a foreign language, subdivided into two groups of eight according to level of reading ability, i.e. eight good readers and eight weak readers read two types of texts each, one of causation and one of description, and at two levels of text difficulty.

In most of the earlier studies (Sheorey & Mokhtari, 2001; Vidal, 2002), and including my current study, the collection of data by means of think-aloud verbal protocols was aimed specifically at identifying the strategies used by the participants. However Meng (2006) also used the data to develop a Coding Scheme, which included forty identified strategies that were classified into three categories, namely bottom-up, top-down, and metacognitive strategies, and in conformity with their processing operations. These categories were further subdivided into eleven subcategories based on their processing load and functional purposes.

The major findings in Meng's 2006 study revealed that good and weak readers were aware of and used reading strategies, and that these learners largely revealed the use of the same strategies, with a similar pattern of employment of bottom-up strategies. The study also revealed a key difference in their strategy usage: good readers had a higher frequency use of top-down strategies, suggesting that good readers were more concerned with obtaining the overall meaning of the text than were their weaker counterparts.

Surprisingly, the study also revealed that weak readers used metacognitive strategies more frequently than their stronger counterparts; Meng (2006) suggested that this finding may be due to the habit readers have been found to have of monitoring their activities. The study also revealed that the differentiated nature or different genres of texts did not impact on the readers' overall strategy use in the case of both good and weak readers. There was, however, a slight impact noted on the readers' choices concerning certain strategies. Contrary to the lack of impact on weak and good readers' overall strategy use, the study revealed that the effect of text difficulty on good readers' strategy use was strong, yet was weak on weak readers, showing that good readers could adapt flexibly, or 'strategically', to more difficult reading tasks and texts by making use of their wide repertoire of strategies in comparison to their weaker counterparts who tended to be less flexible in terms of their reading styles.

Of relevance to my study I should mention here that the above briefly presented studies have used TAM and correlated issues of concern, such as veridicality and reactivity with the research tool (Yoshida, 2008), and the use of TAM to identify the types of strategies most used by readers in a FL (Paiva, 1997; Vidal, 2002; Meng, 2006). These studies have also provided a foundation for my own understanding of TAM and the factors and procedures that need to be taken into account when using it (sample size, type and nature of text, linguistic competence) in compliance

with Ericsson and Simon's (1944, 1993) recommendations for maintaining rigour and veridicality. These studies have also helped to ensure the validity of data collected and the absence of reactivity in most cases. The studies have also identified patterns and use of reading strategies in the reading process and within an EFL and/or L2 environment. This is of utmost importance to my study, given my multilingual FL context with its array of languages and multiplicity of linguistic nuances. Despite the participants in the studies described above (Paiva, 1997; Vidal, 2002; Meng, 2006) being users of the target and native languages, the participants in these studies bore resemblances to my participants in several ways, not simply by being Portuguese speakers as were the participants in Paiva (1997) and Vidal's (2002) studies, but also being EFL students, as were those in Meng's 2006 study. One aspect these studies have in common is the use of taxonomies to identify the reading strategies used by participants, to which I resorted for the same purpose, and the results have shown that good and poor readers do in fact show similarities in usage patterns, i.e. most have shown themselves to be predisposed to using metacognitive reading strategies – a pattern that I bear in mind for the latter part of my study. One further aspect worthy of note is test taking/task completion and performance (reading comprehension). In this regard the studies have shown that collection of data using TAM does not impact negatively on reading process, although it may possibly impact on task performance. However Meng (2006) claimed non-impact on overall use of reading strategies of poor and good EFL readers. With these results in mind, I move on to the procedures that need to be borne in mind in terms of observing yet not emphasizing Ericsson and Simon's (1984, 1993) recommendations, while at the same time securing the validity and veridicality of the data to be collected. As I have stressed, I have adhered to these recommendations, i.e. the use of concurrent protocols and avoidance of verbal explanations, provision of instructions (coaching), and consideration of differences in participants' verbal abilities to self-report (Smith & King, 2013:715) in order to avoid protocols with embedded erroneous or distorted data.

7.7.2 Procedures

In the present study I have taken into account the underlying philosophy of think aloud methods which posit that reading a text is a form of communication and that this is at the heart of the educational enterprise. So when students are engaged in dialogue or communication, their

learning is not confined to knowledge constructed as a product, but includes the development of an understanding of an ability to use the process in the course of which knowledge is constructed (Kucan & Beck, 1997:289-290). Thus communication is key not only to understanding but also to producing accurate or quasi-accurate accounts of the process in which one is engaged.

Despite arguments against the provision of instructions and/or ‘coaching’⁴⁶ of participants in terms of what to report in studies using the Think Aloud Methodology, i.e. the idea of being non-intrusive (Simon & Ericsson 1980; Cohen, 1996), I followed the advice given by Johnstone et al. (2006) to ‘provide practice’ (see Figure 5) and also gave participants some basic instructions in order to reduce the possibility of irrelevant data. I did not ‘coach’ my participants to say what I wanted to hear, in the way a lawyer would do, but instead instructed them to follow certain steps (as one would do in football, for example). In this way the end product of the process could be deemed valid, given all the controversy around the method as already discussed above: the possibility of collecting biased data that may not reflect the true cognitive processes engaged in by participants, but instead would be in the form of accounts of what they believed to have taken place. Due to the difficulty some participants may have in merely verbalising each thought as it emerges, they [...] engage in additional cognitive processes thus generating thoughts that match the required explanations and descriptions but which at the same time can result in changes to their thought sequences and in added untrue verbalizations (Ericsson, 2006). In following this form of non-intrusive stipulation, I ensured that the participants in my study ‘were to be left to their own devices since any instructions might lead to biased processing’ (Cohen, 1996:15). Bearing in mind cautions against coaching or directing participants from Kibby (1997:1-3), Davey (1983), and Kucan and Beck (1997), and even ‘methodological hard liners’ like Ericsson and Simon (1993), as Cohen (1996:16) emphasises, I recognized the need to instruct participants to make complete verbal protocols, arguing that data attained through **undirected**⁴⁷ verbal protocols have been shown to be often over generalised and incomplete. One clear example of a very good verbal protocol script (see Figure 8 below) is that in Johnstone et al. (2006), which I made use of, among other kinds of instructions, in my study during data collection.

⁴⁶ ‘to coach; coaching’ can be understood in the present study as an innovative term to be used interchangeably with *train* and *trial*, *warm-up*; also, in the context of a study using think-alouds, as an act to provide explicit instructions to subjects/participants.

⁴⁷ Stress placed by Cohen, 1996:16

Given that the complex nature of the process of verbalizing while thinking, and the need for care in capturing valid data which show a true reflection of the thought processes of participants, when meeting with participants it is crucial that all issues are clearly explained to participants by the researcher and think aloud procedures demonstrated. Figure 8, adapted from Johnstone, Bottsford-Miller and Thompson (2006), provides an example of the kind of script a researcher could use for clearly explaining and directing participants in as non-intrusive a way as possible to verbalise their thought processes.

Figure 9: Think Aloud Protocol Script (In Johnstone, Bottsford-Miller & Thompson, 2006)

“We are interested in how students solve problems on tests, so we want to ask you and other students to solve some test problems for us and let us listen to how you do that. We are not as interested in the answer you come up with as we are with how you are thinking about the tasks.”

Notice the phrasing is general and honest about our, the researchers', interests and respectful of the contribution each student can make to tests for students across the country. Students should not feel the slightest sense of being judged or of having to obtain any particular type of result. Once they start to feel this way it affects their behaviour and introduces a bias.

If the researcher asks the student to “parrot” back what he or she was told about today’s session by the recruiting person or teacher, one will often find that the student has been given information that is biasing and can affect the session. You need to find it in order to rectify it:

“What were you told we were going to do today?”

Be curious about what students do and why. Also tell the student that you will be videotaping the session and let him/her know when you turn on the camera.

“What you say is really important, so we are going to run this camera to make sure that we don’t forget anything.”

Provide practice

Give each student a practice task to familiarize him or her with thinking aloud while working through a task. First you solve a problem and then ask the student to solve one. (The camera is not turned on for the practice.) Give the following instruction:

“I’m going to think out loud while I solve this problem. That means I’m going to say everything that goes through my mind.” (Complete problem while thinking out loud.)

“Now I’m going to ask you to solve a problem the same way. Just say everything that goes through your mind while you solve the problem.”

“I am not as interested in the answer to the problem as much as how you are thinking about the task. Do you have any questions about what we just did?”

When I first used think aloud verbal protocols in 1995/6 for my Masters Dissertation, I did not have a comprehensive idea of the intricacies, sensitivities and practicalities of this type of research instrument: my conceptualisation of think aloud protocols was of a tool which functioned in the form of semi-structured interviews administered after learners and/or participants had read and completed the tasks (more or less what happens with a retrospective think aloud process).

One other very important aspect arising from my reflection on my initial use of think aloud verbal protocols is that at the time I naively believed that my participants would know what to do and say, and so I did not give them adequate instructions associated with think aloud verbal protocols. Furthermore, they were not even ‘coached’ as some the literature mentioned above advises should be done in a prescriptive way. I should also underline that at the time the think aloud methodology was still under scrutiny and scholars were grappling with issues of validity, veridicality and so on; most of these issues have now been clarified in recent research, despite the existence of some grey areas as I show in earlier and later sections of the present chapter.

One of the reasons that impelled me to use this very same tool of research again is that verbal protocols seem to me to be the ‘only’ means to access thought processes while reading and during task completion, and, without this kind of data, certain aspects of the research would have remained hidden and *unsourced*, thus closing off one line of inquiry for my research questions. However, it is very important that participants who are to take part in concurrent and retrospective verbalizations are instructed [i.e. ‘coached’] to verbalize their thoughts as they emerge, without trying to explain, analyse or interpret those thoughts as the works of scholars like Ericsson & Simon (1981,1993), Kibby (1997), Cohen (1996), Ericson (2002) and Bowles & Leow(2005) do caution. As has been mentioned, this is crucial to avoid collecting data that may be deemed to be biased or invalid.

For the purposes of modelling the task, Kibby (1997), drawing on Davey (1983), suggests a number of basic steps which I followed to a large extent in my study, albeit with some limitations:

- Activating prior knowledge - demonstrate how to preview a chapter, unit, or other text that students will be reading; orally state what you are looking at, how you are interpreting it [the text], what questions you are asking yourself, how it affects your expectations for what you will learn by reading this text; conclude by demonstrating how you recall information and attitudes related to the gist of the text and how you have organized this information in your mind in preparation for reading;
- Predicting - demonstrate how you use this activated prior knowledge to formulate expectations for the text, i.e. information or points of view you expect will be presented in the text you are about to read;
- Visualizing – discuss or tell students what you are seeing in your mind and why;
- Making analogies – many times an idea or event we are reading reminds us of some similar idea or event from our own experience, and we then find out that which has been read to be analogous to real life; these analogies need to be explained and demonstrated to students;
- Expressing confusion – even the best of readers is unsure of the meaning of certain segments of the text, and this should be demonstrated to students;
- Demonstrating fix-up strategies;
- Restating or rephrasing text into simpler terms;
- Backtracking – going back to earlier portions for the purpose of establishing connections or relations;
- Rereading – rereading the immediately preceding section in order to clarify your understanding;
- Reading – reading ahead to clear up misunderstandings;
- Using context – use the context for an unknown word;
- Identifying important and less important information – in this process, a mental outline might be constructed;
- Summarizing and organizing – after completing the reading, demonstrate how you would scan back through the text to collect major organizing ideas, sub-topics within major organizing ideas, and techniques for writing, memorizing or recalling content.

As mentioned above, with the presentation of the A-G recommendations by Ericsson and Simon (1984,1993), and some of the alerts regarding these by Smith and King (2013), I have paid attention to some of the aspects, but may very possibly omitted to focus on some of them. This however should not be a reason to dismiss the procedures below, nor the data collected, for it has been clearly posited that TAM is still a valid research tool in the field of L1, L2 and FL reading (Smith and King, 2013). For instance, I took care to limit my sample size, which I knew from the literature need not be large in order to validate TAM thought verbalisations on cognitive processes. In addition, Pressley and Afflerbach (1995) argue, “it is critical for the researcher to be able to predict what participants will self-report as they attempt a task (*predict study participants’ self-reports*) (Pressley & Afflerbach, 1995:9-13, a point emphasized by Smith & King, 2013:711). Thus I did a trial exercise in order to be able to envisage this, but, due to time constraints and non-availability of participants, the number of trials was reduced to a minimum, as noted below. Here I followed the steps set out in Davey (1983) and Kibby (1997) in order to minimize bias and/or avoid total rejection of the tool. I also took care in the selection of texts, and addressed the issue of discipline speciality in order to cater for participants’ familiarity with content. One important suggestion which I followed closely and carefully was the avoidance of dialogue between the researcher (me) and the participants, which could undermine the data validity. In this way I was establishing a platform for thought verbalizations proper and not for explanations and/or additional information in terms of what participants would believe to have taken place while doing TAM. The section below describes the instructions I gave to the participants in my study.

7.7.3 Procedures and instructions in the present study.

I instructed the participants in accordance with what researchers in the field consider to be the basic rules for think aloud protocols (Ericsson & Simon, 1993; Pressley & Afflerbach, 1995). These entail the following steps:

- i. asking the participants to say out loud what they were thinking while reading and performing the task.
- ii. directing participants not to engage in a conversation with the researcher.

- iii. avoiding social interaction of any sort between the participant(s) and myself the researcher:

Further, basing my instructions on the verbal protocol script suggested by Johnstone et al. (2006) and outlined above (7.3.2, Figure 5), I met the participants who had taken the IELTS and explained the third phase of the study to them. At this stage of the study they were expected to engage with a reading and then complete a task based on the reading. I gave them careful and clear instructions on how to verbalize their thought processes and performed a short demonstration. For the benefit of all participants a demonstration and modelling exercise was carried out by a few of the participants and the researcher to make sure they all had understood what to do. A short text was used for the practice run.

The procedure for, and nature of, these instructions were not intended or deemed to be part of the data collection proper, but intended as an experimental exercise, i.e. a trial or warm-up whereby each participant familiarised himself/herself with the research method, the steps to task completion, and the production of data so that, as far as possible, in line with the steps outlined by Ericsson and Simon (1993), they did ‘not confound verbalizations with explanations and justifications’ (Ericsson & Simon, 1993:83). In some studies which used more extensive warm-up procedures to *train* the [participants] to conform to the think-aloud instructions, data were shown to be more consistent (Ericsson & Simon (1993:83). I also gave participants specific instructions to pay attention to what went on in their minds regarding the reading and any ‘processes’ that were taking place while they were reading and which helped them understand the text. This type of guidance has been used in other studies and proven not to be harmful to the data; instead it has been shown to produce more reliable and better quality data (Cohen, 1996:16).

I also clarified any further queries from participants and made sure that they did not confuse verbalizations with explanations or interpretations of what they would be doing rather than what they were thinking. I told the participants that I would be mostly silent and observing the process and would say something only when long pauses occurred but urged them when this occurred not to engage in a conversation with me, the researcher. Permission for recording their thoughts had been granted through the consent letters and participants were unequivocally guaranteed that

the results of the data collection would be used for research purposes only, and not for judging individual scores/end of year results.

During the data collection proper I sat behind the participants, observing and taking notes, and occasionally ‘prompting’ the participant to say something after long periods of silence. Prompting was done through simple nudging participants using ‘neutral’ cues, such as “keep talking”, “say something”, “keep thinking aloud”; I discarded Wh-questions completely in order to avoid leading participants in what they were to say about the task during the concurrent sessions. These Wh-questions were however utilised in the retrospective sessions with one of the participants who was not able verbalize his thoughts during the process despite several attempts at prompting him using the neutral cues mentioned. These neutral cues (for example, “keep talking”) encourage subjects to think aloud but do not bias the data by adding external ideas to the internal processes of subjects (Simon & Ericsson, 1993; Johnstone et al., 2006).

All verbalizations and task completion were recorded with the permission and consent of each participant.

7.8 The research population and participants.

Mentioned elsewhere in the course of the present study, is the teaching of English in most faculties at universities in Mozambique, although there were some important changes occurring within the UEM English course structure when we were conducting this study. The main aim of the English courses has been described (Chapters 1 and 3) in terms of developing the capabilities of students’ to read academic texts as has the research population in the present study in terms of their being faced with a an unfamiliar environment in the university in comparison to that of high school, having to switch from general to academic English, and to develop academic literacy I also stated my conducting the study on the assumption that this type of student has not sufficiently developed the skills to access information adequately through proper use of reading strategies/skills in the FL (see Chapters 1-3).

7.8.1 The Participants

The research population was described in detail in Chapters 3 and 5, are students in their first to third year at the UEM following undergraduate degree courses in the Faculty of Arts and Social Sciences. For them English courses will enhance their reading skills and/or strategies and in this way improving and/or upgrade their general and academic their ability to read, extract data and perform tasks, essays with information obtained from books written in English.

The participants (N=10) in the TAM process were the same as those who sat for the IELTS comprehension test (the reading module) and completed the cognition and metacognition questionnaire. All participants were attributed a code in Phase II and the same code applied for this Phase III. This was done in order to better correlate the results from their comprehension test and the insights from the cognition and metacognition questionnaire with their reading capabilities and skills/strategies use.

I intended initially to have a third of the low scorers (the lowest scorers in the group who had a score below 50%) and a third of the high scorers (the top marks of those who had a score higher than 50%) in the IELTS test (reading comprehension) to carry on into the think aloud phase. However, due to reasons beyond my control (some of the participants dropped out without any prior warning), this was not possible. Thus I decided to hand a schedule with time and dates to be filled in accordance with their agenda all participants: I had to resort to the entire group of participants who had taken part in the previous phases of the study in order to source an adequate sized pool of possible participants. Ten participants responded positively and agreed to be recorded and to do the reading task as part of the think aloud verbal protocols. These 10 learners (see Table 25) formed a heterogeneous group of university students consisting of two females and eight males, who had scored among themselves a mean of -16.3 in the IELTS reading comprehension test which was almost identical to the overall mean of -16.57 for the whole group (see Chapter 5, section 5.5). However, from a different angle, the high scorers (+50%) had a mean average of 20.8, just bordering on 50%; their poor counterpart (-50%) had a mean average of -11.8, considerably below the negative mean average for the entire group that sat the test. The participants constituted, fortunately and despite the random participation, a heterogeneous group and happened to meet the criteria I had previously defined for the selection of candidates for the think alouds.

Table 25: Participants in the *Think Alouds*

No.	Code	Test result (out 40) ^a	%	Gender	Language (L1)
1	SMH002	09	22.5	M	Portuguese
2	CMH003	09	22.5	M	Shangane ^d
3	MRM004	08	20.0	M	DNS ^b
4	MDD017	14	35.0	M	Emakhuwa ^c
5	CMT021	19	47.5	M	Tsonga Shangane
6	ARM022	20	50.0	M	Tsonga Shangane
7	YTD024	20	50.0	F	Portuguese
8	DIT026	21	52.5	F	Portuguese
9	BSG027	23	57.5	M	Emakhuwa ^c
10	JMM028	20	50.0	M	Portuguese

a. IELTS results.

b. Did not state their first language

c. Bantu language spoken in the North of Mozambique (Nampula, Cabo Delgado, Niassa and part of Zambezia)

d. Bantu language spoken in the Southern region of Mozambique (Save River to Maputo).

There were no minors in the sample, i.e. participants below the age of sixteen, in accordance with Mozambican Law (The Act/Bill/Law/Decree defines the age of 21 for an individual to qualify as an adult). Four (04) participants declared themselves to be L1 speakers of Portuguese (40%) and the remaining six (06) included five (05) representing first language speakers of Bantu languages (three Tsonga Shangane and two Emakhuwa) and one (01) who did not state (DNS) his/her first language. None of the participants declared themselves to be a native speaker of English, nor of any other Roman and Germanic languages. None of the participants had studied

in an English speaking country or had had English as a medium of instruction in the course of his/her academic career prior to joining the Eduardo Mondlane University.

Table 26 Features of participants: first language, age and gender

	Total	% gender	Port. L1	Bantu L1	Age range
Female	02	20.0	02	00	20-25
Male	09	80.0	03	05	(05)20-25; (03) 25-35

Despite the language diversity (see Tables 25 and 26), Portuguese was and still is the medium of instruction of the participants at primary, secondary and tertiary level. In spite of this, and taking into account the diverse linguistic backgrounds of the participants as described in previous chapters (see Chapter 1 and Chapter 3, section 3.2), and also anticipating that thought(s) regarding any given reading task may possibly trigger background information and schemata of the participant's life, and in the L1 (other than Portuguese), the participants were permitted to express or verbalize their thoughts in any language of their choice (among English, Portuguese and a Bantu language) while doing the task and afterwards during the retrospective part of the study.

7.9 Data Collection

In preparation for the data collection process participants were instructed on think aloud procedures, and trials were carried out before recording as described above. A reading text on a field related topic was selected (participants were translation students and read all sorts of texts but are familiar with language issues (applied linguistics and literature) and as such one of the texts in IELTS dealt with languages and the other with technology (on a general rather than specialised knowledge level); a search was carried out through various IELTS samples to find one that would suit this particular pool of participants, and they had to complete a task based on

the text. The task was to be completed within a given period of time and participants had to match a set of statements (07) describing factors different to those mentioned by the author in the text (03) (See Annex K). The *think alouds* were carried out about 8 months after administration of the IELTS reading comprehension test, and in this research phase I decided to use a text that had been part of the IELTS test⁴⁸. This would provide me with an opportunity to correlate, at least, the results of the reading task in the think aloud with those from the IELTS, and to use these as a form of ‘control’ device to confirm any trends should these be evident. Further, the text discussed a language topic and I thus hoped participants would not feel anxious about a topic if it was not alien to their field of study (also for motivational purposes and predisposition to doing something). The reading comprehension task was a section 33-35 of the IELTS reading comprehension test used in the research phase described in Chapter 5, where participants were first asked to read the text, then look at a list of statements A-G and select THREE (03) factors from the list that had been mentioned by the writer of the text and fill in the box in no specific order.

Although the intention at the time was to video and audio record the entire process, the video recording was discarded as a possibility because participants felt wary of this tool. In the end only voice recording was used. Due to the lack of video recording, I had to observe the participants and make notes of any activity, behaviour and extra-reading activity (body language, use of tools, index, etc.). It was evident that the voice recordings would not register several important non-verbal aspects, for instance, the use of the index finger (or any other tool/device) to follow the words and lines of the text, the underlining of sentences and/or phrases or words, the act of browsing through and/or flipping the pages, backtracking, etc., all the various non-verbal strategies participants would engage in to aid text comprehension and task completion. The findings of the visual observation process are also presented and analysed in the next section.

All participants but one were voice-recorded during the actual thought disclosure process. As has been described, the sole participant who had to undergo a retrospective session could not manage

⁴⁸ Here one would be concerned with the effect of using the same text for task completion (to assess reading comprehension). Because literature (to the extent of the search carried) does not cover this aspect, it is hard to judge whether the results (TAM task completion) may have been affected or not. The use of the same text and task has however helped with a platform for comparative purposes (see Table 26, IELTS and TAM results).

to verbalize his thoughts while reading and/or doing the task. After a few attempts it was decided he would first read the text and then complete the think aloud task. Recording his thoughts (verbal protocols) would be a subsequent rather than concurrent action. The recordings were then transcribed, coded, and marked, and thereafter the audio recorded versions of the protocols were analysed and the coding was the same as the one used in the transcriptions. The analysis allowed for the identification of reading comprehension strategies following the 10-12-5 Sheorey and Mokhtari 2001 Reading Strategies Taxonomy. The categories resulted from a careful analysis and comparison of Weir's, Munby's, and Rosenthine's taxonomies of reading skills and strategies discussed in earlier Chapters (see section 1.3 of Chapter 1, sections 2.3 and 2.4 of Chapter 2, section 5.1 in Chapter 5, and section 6.1 in Chapter 6). All transcriptions (Annex J) were presented in such a manner which would help with the presentation of the findings in written form as well as subsequent discussions, i.e. I have numbered data referring to a given portion/part of the reading and/or solution of problems actually used/demonstrated to be used by analysing transcriptions; these were also related to segments, clauses, paragraphs, word(s), phrase(s), etc. The numbers were to be used as reference in the analysis and discussion in order to avoid laboriously copying long extracts from the transcripts. Although some phrases, extracts and/or lexical items might be carried over from the transcripts to the actual findings and discussion texts, attention is called to refer back to them in actual transcripts and the table that summarises the findings.

7.10 Discussion and conclusions

7.10.1 Discussion

The analyses I conducted and concluded, together with the simple count for the actual strategies used by participants and their awareness of use, has helped me to plot the data and reading comprehension strategies on tables and graphs, which I prepared in order to assist and support the interpretation of all the data. This interpretation, and its substantiation with a comparative approach, was intended to assist with the discussion of most of the realizations, conjectures or not, that might transpire from the analysis. The discussion of the findings analysed above will also be conducted based on the following main research questions:

- (a) to what skills/strategies do learners and users of English in an EAP-ESP-EFL context resort to when constructing meaning from text?
- (b) to what extent are reading skills/strategies used effectively in this process?
- (c) to what extent are these learners/users aware of their own use of such reading skills/strategies?

The analyses have revealed that all participants uses of the cognitive and almost all of the metacognitive strategies, with the exception of ‘previewing text before reading’ (MET 2) and ‘confirming predictions’ (MET10), which are only used by ARM, DIT and ARM (some of top scorers in the IELTS: see chapter 5). Despite this small sample, these findings corroborate similar results from studies which correlate success in reading by first and second-language readers of English with the use of both metacognitive and cognitive reading strategies (Sheorey & Mokhtari, 2001; Mokhtari & Reichard, 2004; Schoonen et al., 1998; Stevenson et al., 2003; Meng, 2006; Pang, 2008).

Further, there an indisputable use of supply strategies by all participants is shown, such as taking notes, underlining information, using reference materials like dictionaries, grammar books, paraphrasing for better understanding, going back and forth in the text and asking oneself questions. In addition, I observed that translation in general and sight-translation in a much more specified manner, the use of cognates both in L1 and the target language, English, usually described as code-switching, to be one of the commonest ways in which participants construed meaning and attempted to resolve the reading task. This finding is in consonance with what has been written about proficient bilingual and biliterate readers, who use supply strategies (code mixing, translation, use of cognates), which are believed to be unique and particularly useful for reading in a second language (Jimenez et al., 1995, 1996; Feng & Mokhtari, 1998; Calero-Breckheimer & Goetz, 1993; Vidal, 2002; Sheorey & Baboczky, 2008; Malcolm, 2009). The results are also in alignment with studies that found no statistically significant difference among participants of different categories of language competence when using support strategies (Zhang & Wu, 2009; Karbalaee, 2012).

In Chapter 5 I presented the results from the reading comprehension tests, and in Chapter 6 discussed their relationship with participants’ self-reported use of reading strategies. With the

data then yielded it was possible to note a non-significant yet potentially interesting relationship between the reading strategies taught as identified in Chapter 4 with those inferred from the reading comprehension test in Chapter 5, and the claims regarding the usage of reading strategies in the questionnaire in Chapter 6. These claims showed a use of a range of cognitive, metacognitive and supply strategies. However effective use of reading strategies can only be determined by means of the analysis and discussion in the present chapter.

Despite the evident range of cognitive, metacognitive and support strategies participants claim to use, and despite being evidently aware of them, as clearly shown by the data (Chapters 5 and 6), coupled with the evident existence of teaching manuals (Chapter 4), which advocate and demonstrate a reasonably high volume of reading strategies, the IELTS results revealed that the levels of text comprehension were very low (-16.57 mean average) for both high and low scorers on the IELTS. This trend was also observed with the reading task resolution results in the think aloud verbal protocols below. The reading strategies COG 1, 4, 9,10, and MET 1, 3,4,7,8, and possibly all SUP 1-5, were those seen as necessary for success in the IELTS, yet their use did not result in high levels of comprehension. So the question of why these participants failed to score well in the IELTS is pertinent. At this point in the research process I was uncertain whether to suggest an ineffective use by participants of reading skills or to simply ascribe the low scores to poor language competence. This could suggest the possibility of the very old issue regarding reading being a language problem (lack of vocabulary, sufficient grammar knowledge) rather than a reading being brought back into consideration and the discussion continued. Answers to these queries may provide useful insights with regard to Bernhardt's 2005 compensatory reading model. The designation of the model itself hints at a degree of 'compensation', and the results at this point in my study reveal this compensatory trend (i.e. the use of supply strategies in combination with cognitive and metacognitive strategies). However the issue is not whether all of these strategies were being used, but how much, or to what extent, this compensatory trend helped with text comprehension. What is clear, and what Bernhardt (2005:135) herself concluded, is that L2 readers 'did not seem to psycholinguistically guess their way through a text, testing hypotheses', but it was clear from the verbal protocols and observations of the participants in my study that 'once second language readers made an initial decision, they guessed their way through that decision – not through the text'.

Regarding the difficulty of identifying L2 readers' use of background knowledge, Bernhardt sees this and readers' guessing their way through a text as being inconsistent and thus hard to pin down with any accuracy:

Readers sometimes used the knowledge they had, and sometimes they did not. In some cases, it appeared that readers had no appropriate background knowledge and, nevertheless, achieved a high level of comprehension. These two features, [one being the issue of readers psycholinguistically guessing their way through a text, testing hypotheses and the other, knowledge]—essentially strategic features—did not appear to be part of the development process of reading; they were either at play or they were not; they emerged at times; they do not emerge at other times throughout the second language reading process. (Bernhardt (2005:135)

These aspects were evident in my study, but with regards to L2/FL readers' reading strategy use rather than their simply bringing into play content or domain knowledge. The issue here would be whether what needed to be in play and 'emerge', that is, the adequate and effective use of reading strategies and elevated use of language and test completion skills, did not emerge, and thus could not have helped with better reading performance. Further comparative analysis with the results from the reading task resolution (see Table 26) indicates that the trend is similar: none of the participants, high or low scorers in IELTS, had all the answers correct despite evidence of use of similar cognitive and metacognitive strategies and an overwhelming use of supply strategies. This finds corroboration in the Jiang and Kuehn (2001) study: by looking at the relationship between metacognitive reading strategies (one of the assets that should have emerged), and the use of reading strategies by first and second-language readers of English (grounds to compare with FL readers), they found that successful readers use larger numbers of cognitive and metacognitive reading strategies (as evidenced above for both poor and high ability readers), using a number of very important reading strategies (setting the purpose for reading, prediction, summarizing, questioning, use of text structural features, self-monitoring and so on) which learners have been found to use to a greater extent to plan, control and evaluate their own understanding of text. However this was not the case with the participants in my study. The wide range of reading strategies did not facilitate the reading comprehension and task performance that could have been expected; *au contraire*. Perhaps hints of the reading process

being a language problem rather than a reading one, even if some had not used the skills and strategies at the right phase of reading.

Table 27 Comparing IELTS and TAM reading task results⁴⁹

No	Code	IELTS	%	Results from section 33-35 in IELTS	TAM reading task results	Gender
		Test result (out 40)		(out of 3)	(out of 3)	
1.	SMH002	09	22.5	1(f)	1(f)	M
2.	CMH003	09	22.5	0	2(d;f)	M
3.	MRM004	08	20.0	0	1(e)	M
4.	MDD017	14	35.0	0	2 (d;f)	M
5.	CMT021	19	47.5	1(f)	1(e)	M
6.	ARM022	20	50.0	2 (b;d)	2 (b;d)	M
7.	YIT024	20	50.0	1 (d)	1(d)	F
8.	DIT026	21	52.5	2(d;f)	2 (b;d)	F
9.	BSG027	23	57.5	2(d;f)	2(e;f)	M
10.	JMM028	20	50.0	0	1(e)	M

Surprisingly, two participants who had scored very low marks in the IELTS (CMH003 and MDD017) scored better in the section of the IELTS used in the TAM reading task compared to their initial score and to their high scoring counterparts (CMT, YIT, JMM, DIT). This however, does not provide me with enough evidence to advance any conclusions yet. The picture emerging from my study is thus a little fuzzy and not according to expectations at this stage: I had expected

⁴⁹ Numbers in columns 5 and 6 represent the correct answers given with the respective choices (A-G).

the IELTS high scorers to show a similar trend with the TAM reading task. Interestingly, Vidal's (2001) TAM study of writing tasks with Portuguese L1 speakers was equally fuzzy in this regard. Possibly the use of the very same text and exercise in the IELTS may have played a role in the trend shown by CMH003 and MDD017: familiarity with text content and long term memory ability may have kicked in and helped participants achieve high scores. Or this may have been sheer luck.

It should be noted at this point, however, that all participants were shown in the questionnaire findings to be aware of and to use similar cognitive, metacognitive and supply strategies, in line with Sheorey and Baboczky's (2008) study, which refers to the use of bottom-up and top-down strategies. Similar findings were obtained by Meng (2006) and Karbalaee (2013) in relation to strong and weak advanced EFL readers. Although I cannot claim conclusively as Sheorey and Baboczky's (2008) work, i.e. that the major difference between good and weak readers is the greater use of top-down strategies by good readers resulting in a higher tendency to achieve the overall meaning of the text more successfully than poor readers, I can however claim that both poor and high scores used similar reading strategies yet with average to low RCT results.. When I look at the IELTS results and the TAM task completion, the relationship between a participant's stated use of certain a set of reading strategies, the status of being a good or a weak reader becomes rather fuzzy at this point, since both categories of readers have used mostly metacognitive and cognitive strategies similarly (practically the same approach and order) and these were supported by a set of supply strategies dependent upon the reading situation. Similar to the studies conducted by Meng (2006) and Karbalaee (2013) my study shows a relationship between weak readers and metacognitive strategies and this would indicate that weak readers use meta-cognitive strategies more frequently than good readers, which in turn would seem to indicate that higher level strategies are brought to bear when text processing is most difficult: the idea of compensation.

My results (reading comprehension mean in Chapter 5, combined with the set of reading strategies applied and observed in Chapter 6 and in this chapter) would seem to confirm this trend: essentially that good (if test results are used as a variable for comparison) and weak readers seem to use reading strategies similarly but with a higher rate of use for metacognitive strategies. However, the reading performance (comprehension and task resolution) did not

provide strong indications of effective comprehension. One aspect worthy of note is that these metacognitive strategies were still largely unsuccessful in assisting with text comprehension and task resolution, indicating that other variables play a crucial role in meaning construction and that these need to be extracted and comprehended in FL. Perhaps this shows that these other variables, one being language knowledge and competence, and lack thereof, may play a stronger inhibiting role in FL than in L2 when meaning is to be construed.

Alderson's (1984) issue regarding 'the need to examine the question of whether the field of second language reading should focus principally on the *reading* part of the proposition or on the *language* part of the proposition', and raised again by Bernhardt (2005), is valid and continues to influence research and theories. Significantly I seem to return repeatedly to the issue of reading being a language or a reading problem. My findings, together with the contentions of Bernhardt (2005) seem to provide a clear indication that leads me to posit the existence of a language problem. However, this assertion must be limited to the context and the type of participants in the present study. Bernhardt (2005) reminded us that researchers and theorists in the field remain conflicted about the relationship of literacy and language, often conflating issues of oral language, oral vocabulary, and the ability to participate orally in school settings, with the ability to understand written materials at social and academic levels. It could be that those with stronger L1 (Portuguese) literacy are able to more effectively compensate for 'impoverished second language processes' (Bernhardt, 2005:140). If this is the case, then there is perhaps a need to redefine theory and further develop Bernhardt's 2005 Compensatory Model of Reading, particularly as she calls for this in her 2005 paper.

The Meng (2006) and Karbalaee (2013) studies cited above also found that both good and weak readers knew and used the same strategies, and employed bottom-up and top-down approaches (cognitive, metacognitive and supply). Thus, my deduction is that, if Mokhtari and Reichard's MARSII (2002) and SORS (Mokhtari & Sheorey, 2002) is used as a comparative platform, the subscales, Global, Support and Problem solving strategies, are similarly taken into account. From my study, however, one small difference emerged, that regarding levels of use of different reading strategies which showed an almost equal ratio in the greater use of metacognitive, cognitive and supply strategies by good readers resulting in a higher tendency to achieve better comprehension of text (but these are very few indeed). Perhaps even more interesting are the

results of participants YIT and JMM, who showed not only a very good command of the language and a high use of reading strategies, but also a highly elaborated approach to task resolution in the *think alouds*. While they scored reasonably well in the IELTS, their TAM reading task results (using the same exercise) were rather disappointing (see numbers 7 and 10 in Table 26). This is quite hard to explain if the verbalizations, and the data in Chapters 5 and 6 are combined with the results and trends shown in the present chapter. Could this combining show a tendency for even good L2 readers to use a range of reading strategies but yet lack processing skills to perform at excellent rates? Or would this indicate that the TAM interfered in participants' processing in some way for very good processors? For instance, the discussion of the results in Chapter 6 revealed that in Part II of the questionnaire these participants claimed their use of strategies to be consistent with those used by good readers. These range from **Language knowledge and processing ability**, i.e. word recognition, proposition formation, semantics awareness of text structure, etc. to **Cognitive ability**, i.e. the use of prior knowledge, mother tongue, etc., and to **Metacognitive strategic competence** where the respondent claims to monitor comprehension process, evaluating and regulating strategy use to achieve maximum comprehension (numbers #24, 25 and 26 in the questionnaire). Additionally, the use of such strategies as setting the purpose for reading, prediction, summarising, questioning, use of text structural features, self-monitoring- all important strategies for reading comprehension and which are used to a greater degree to plan, control and evaluate their own understanding - was clearly evident in the findings on these two participants, and these findings are in line with those in studies by Sheorey and Mokhtari (2001), Mokhtari and Reichard (2004), Schoonen et al.(1998), and Stevenson et al. (2003).

If the trend shown above as resulting from the data collection described in Chapter 6, and what can be deduced from the results yielded in the present chapter, and thereafter combined with the reading comprehension test results in Chapters 5 and 7, it becomes important at this stage for me to attempt to make certain conclusive remarks regarding the findings of the present study. Having said this, once again I would tend to agree with Vidal's (2002) claim that the relationships between [...] use of strategies and ratings of task performance when trying to correlate reading strategies use and awareness, and participants'/learners' test results are complex to explain and not as straight forward as they seem.

Thus, while it is difficult for me to advance any conclusions at this stage, the data in the present study seem to have generated enough evidence to answer the initial research questions, namely (a) to what skills/strategies do learners and users of English in an EAP-ESP-EFL context resort in order to construct meaning from text? and (c) to what extent are these learners/users aware of their own use of such reading skills/strategies? With regard to research question (b), to what extent are reading skills/strategies used effectively?, the data would indicate that there is enough evidence for me to claim that the participants in the present study, and within the context in which this study was set, use a range of those cognitive, metacognitive and supply reading strategies commonly used by bilingual and foreign language speakers, including code-switching (a feature considered to be unique to L2/FL biliterate learners; see Jimenez et al., 1995, 1996). Further, as has been mentioned, the data have shown that the participants' use an array of top-down strategies and bottom-up strategies, such as those used by most students in multilingual and L1 contexts, but this evidence was not sufficiently conclusive for me to be able to claim that good readers used top-down strategies better or more effectively than their less competent counterparts and therefore comprehended meaning better. Here it should be borne in mind that the sequence of most and least used reading strategies (self-reported use) of FL readers in my study was inverse to that of L1 and SL readers in the Sheorey and Mokhtari (2001) US study (see Chapter 6, section 6.7), and that this is perhaps the reason behind the lack of adequate text comprehension evidenced by the participants in the present study. In Chapter 6 I used Sheorey and Mokhtari's 2001 study for comparative purposes because of the similarities between the participants in their study and mine: they were i) non-native readers of English and ii) studying at university and iii) foreign language users. And the study used a taxonomy (SORS), which was also used in my study (see Chapters 4 and 6), thus providing the basis for a comparative study. What this comparison showed was that US and EFL students, in the context of academic settings, construed meaning as per conclusion number 2 (see Chapter 6): they all attributed the same order of importance to cognitive, metacognitive, and support strategies in a descending order, irrespective of their reading ability or gender. This order is not reflected by FL readers in my study. The fact that they attribute importance to the types of strategies in a descending sequence, from top to bottom, reveals a mixed trend that shows reading strategies reflected MRS and cognitive and supply strategies at the top, and at the bottom I found cognitive strategies. This is a significant finding given that the bottom five reading strategies of the FL participants in the

present study are in the top five strategies in the study conducted by Sheorey and Mokhtari's (2001) with US and ESL students. These particular reading strategies are attributed to students (US and ESL) who are classified as having 'high' reading ability (Sheorey & Mokhtari, 2001:442), and as such one could expect readers to rank them at the bottom of the list rather than high on the list, and thus consider them as 'low' order reading ability strategies as the FL students in my study did. This suggests that reading strategies that are viewed as indicating 'high' reading ability may not necessarily be the same for FL students studying in a multilingual context with an array of languages, only one of which (L2) is used as medium of instruction in a formal education system (see Chapter 6 for a detailed set of hypotheses and discussion).

Given all these factors, I have concluded that these findings show a negative trend: there is in fact an apparent strong relationship between reading strategy use and awareness, and the dimensions and characteristics of good and successful FL readers, but no apparent strong relationship with the RCT scores. In order to attempt to explain this I need to return to Bernhardt's 2005 compensatory model of second language reading where she clearly states that a contemporary model of second language reading must firstly 'acknowledge the significant contribution of first language reading ability to second language comprehension', and that this contemporary model 'must enable a conceptualization of comprehension as consisting of different elements and influences, rather than simply 'raw grammar and vocabulary'. She sees the reason for this being that linguistic codes from different social and educational settings 'realize their meanings with different surface structures (such as restrictive word order in English versus relatively free word order in German), and models have to acknowledge that to move toward higher levels of proficiency, readers must acquire processing strategies specific to the language at hand' (Bernhardt, 2005:138).

Portuguese being a European Latin-based language, and deemed to be operating at levels similar to the examples Bernhardt has suggested above, but with the peculiarity of being a rather redundant and 'free style' type of language (my classification), I would expect similar conclusions to those drawn by Bernhardt (2005). Thus my question would be whether, in terms of the particular kind of multilingual context of my study, with the array of Bantu languages (L1 for most participants but with no apparent formal instruction and oral rather than written based), could have played a role in the findings. Bernhardt (2005) points to an additional element for a

‘viable model of second language reading’; as she puts it, ‘this model must also concede that in the reading of cognate languages there is no such thing as “no knowledge” if the reader is already literate and, at the same time, admit that when switching to noncognate languages, the threshold is set at a very different point’ (Bernhardt, 2005:138-9). Thus, if I take into account that Portuguese is to a certain degree a cognate language to English (word formation, word root, pronunciation of some words, subject-verb-object structure), one would expect comprehension by L2/FL readers not to falter to the extent that it did for most participants. However, as mentioned earlier, one could argue that the role of the Bantu languages (oral) should be taken more seriously in terms of bringing it into the discussion with the possibility of finding answers to these questions. The issue here would be the design of a study that could source out the ‘knowledge’ the participants have of their L1 Bantu language and the extent and contexts of its use by them, and thus try to establish what contributions these languages may have made to compensate for the gaps that may have existed in participants’ construing meaning in a FL.

As Bernhardt (2005:177) suggests, a more satisfying conceptualization of the second language reading process lies in the concept of compensatory processing: in other words there is a need to understand and/or take into account the modelling of ‘how knowledge sources assist or take over for other knowledge sources that are inadequate or non-existent, i.e., what they use to compensate for deficiencies.’ Could this be an issue to emphasize in SLA and FL curricula and could it perhaps assist curriculum designers and teachers in comprehending the hidden and more complex reasons behind the failure of students to do better in tasks and to construct meaning more competently? As has been described in this chapter, participants showed themselves to have an array of reading strategies they use as resources but one could speculate that certain hidden factors hinder their effective use. Bernhardt’s 2005 three-dimensional model captures the current knowledge base regarding literacy knowledge, language knowledge with a particular emphasis on vocabulary and on dimensions of this knowledge under investigation but not yet explained. And one aspect to be borne in mind, and which is valid for my study, is that, as Bernhardt (2005) explains, ‘knowledge sources are not additive, but rather operate synchronically, interactively, and synergistically’ and this model ‘intends to revitalize the conceptualizations of the second language reading process as a juggling or switching process in cognition’ (Bernhardt, 2005:141). I would argue that explanations for my findings can be found in the progress made in research in the field of second language reading. Bernhardt (2005) has

mentioned this field as having ‘progressed at a remarkable speed and is no longer the mere imitator of first language research and models’. However she warns of the continued existence of ‘formidable hurdles’ (Bernhardt, 2005:142).

The holistic and mixed methods approach employed in my study was meant to deliberately shy away from studies that ‘conduct literacy research variable by variable’ and that, while remaining ‘pristine’, are rendered ‘atheoretical’, as Bernhardt put it:

Several formidable hurdles still exist, however, that stymie research progress in the area. It remains much easier to conduct literacy research variable by variable. Although such research is pristine, it is also atheoretical. Future research must account for literacy knowledge and second language proficiency against the backdrop of an array of other variables. (Bernhardt, 2005:141)

Given Bernhardt’s (2005) advocacy for more holistic – less ‘pristine’- research which takes into account an ‘array’ of variables operating simultaneously, and in an interrelated way, I need to pose the question as to whether I have in fact followed suggestions and/or advice regarding future trends in research in the field, whether I have attempted to ‘account for literacy knowledge and second language proficiency against the backdrop of an array of other variables’. I would argue that to some extent I have attempted to do this in the sense that I did not see the use of a range or variety of procedures as an impediment to my research, and as such allowed for these ‘variables enabling the impact of other variables’ and in the end allowing them to emerge.

What of significance has in fact been revealed in the course of this research? Reading in FL, and the use of reading strategies to process text and task resolution, remains an issue to be handled with care. However, I hoped that, as a person who understands and speaks at least three of the languages at play in the study, and aware of the array of Bantu languages participants use in their daily lives, I would be in a position to bring a new dimension to the understanding of reading in a multilingual context such as mine.

Although not conclusive as yet, it has been clear from the findings that the use by participants in this study of a battery of reading strategies: confirmation of code-switching, translation, sight translation and cognates, and other supply strategies – ‘basic support mechanisms intended to aid the reader in comprehension’ (Mokhtari & Sheorey, 2002:4) used by bilingual learners did not necessarily result in better comprehension, but indicated that these strategies were activated by

participants as a means to compensate for some kind of lack on their parts. Bernhardt (2005) had already warned of the complexity of this process, and the dangers of ignoring or underestimating this:

A huge portion of the second language reading data base, the variables introduced by these multiple languages have never been acknowledged. The field will not know truly rich research and have confident knowledge until the data base acknowledges and reveals cross lingual information. (Bernhardt, 2005:142).

It could be that this was lacking in my study, that I needed to capture more effectively and sensitively what goes on in the mind of the participant when he/she switches to using/r calling upon her L1 Bantu language in order to help her to construe meaning. It was evident that this switching occurred mostly when new lexical items and/or ones that did not have similar structures to those in Portuguese were encountered and could be confounded and send mixed signals to the brain, resulting in inadequate processing of meaning. Sounding out words (the ones mentioned above) also aided participants with processing meaning and provided them with the confidence to continue reading, but did I capture sufficient of these data to feed the 50% unexplained variance in Bernhardt's three-dimensional model. The answers are inconclusive as yet but I feel that a small step forward towards providing them has been made.

Although representing a small step forward in FL reading research, with a certain degree of confidence I would claim that the study has produced sufficient additional evidence (additional to that from recent studies based on Bernhardt's 2005 model) regarding the level of participants' awareness of the strategies they use when reading in the foreign language. However I would argue that, despite the use of the TAM in the current study, not enough evidence was produced to show whether these reading strategies were used effectively, thus making it hard to provide a conclusive and definite answer to question (b) for all participants, both good and weak readers. There is however, evidence showing that the reading strategies (self-reported and actually used in the TAM) did not aid poor readers (the majority in the study if the scores can be used to distinguish good from poor readers). Only a very small number of participants yielded results that can be deemed reasonably significant; these only just surpass the borderline of 50%. Participants having L1as Portuguese and/or a Bantu language did not seem to influence the

results, and apparently neither did the gender issue. It was clear though that, no matter how well these reading comprehension strategies seemed to be used by participants, their use did not result in good results in the reading comprehension tasks (IELTS and TAM task completion). This indeed constitutes a complex picture which appears to raise more questions than answers and could be attributed to the complexity of the text and/or the task (the nature of IELTS and TAM task resolution vs excellent results on the Trial Pilot Test which resembled the ‘normal’ assessment participants undergo at university in their English classes), and perhaps on the participants’ knowledge of, or familiarity with, English and/or academic genres. While, as has been mentioned, the use of reading strategies was evident, the question arises as to whether this was adequate, and effective enough. The results seem to indicate otherwise despite these evident traces of the use of a battery of cognitive, metacognitive and supply reading strategies. Responses to the subset of questions below may shed some light on this apparent contradiction. In view of the set objective (one of them), to shed light on the ‘50% unexplained variance’ in Bernhardt’s model, one could be tempted to advance here that participants’ insufficient exposure to the type of reading task, together with their lack of adequate and effective use (practice) of reading strategies to source out information/data from text could in part explain the findings. Thus the findings could indicate that, in order to improve students’ FL reading competency, issues pertaining to the provision of a uniform and/or similar educational background or reading experience to tertiary learners would be required to be addressed, and perhaps a radical post-colonial change on the type of assessment tools required initiated. Bernhardt (2005) called our attention to this aspect:

It is clear that the language of assessment with L2 populations is critical (Shohamy, 1982, 1984, for example). If readers are assessed in comprehension tasks in their stronger language (almost always L1 until the highest proficiency/fluency levels), their comprehension seems to be much more significant than when it is measured within the context of their impoverished second language skills. (Bernhardt, 2005:141)

How this could be done presents a serious stumbling block. Yet evidence collected in the course of the present study has clearly shown participants’ recourse to L1 (Portuguese) during text reading to build comprehension prior to the TAM task completion, the issue of compensation mentioned in Bernhardt’s 2005 review. This leads me to the next section which presents an

additional set of questions, and where I explore how participants' performance could have been influenced by their L1 origin.

7.10.2 Additional subset of questions: discussion

1. Do participants who speak an L1 Bantu Language such as CiNyanja, CiMokonde or other perform better than L1 Portuguese speakers?

The data show that all top scorers (ARM022 a Tsonga Shangane L1, YIT024 a Portuguese L1, JMM028 a Portuguese L1, DIT026 a Portuguese L1, and BSG027 an Emakhuwa L1 and the top scorer) scored 50% or slightly above in both IELTS and TAM task completion and had exactly the same score in the section used in TAM, with the exception of JMM028 a Portuguese L1, who had not scored in the respective section in the IELTS. As can be seen, the lack of a written script for the Bantu L1 language (which one?) may not have played a significant role when compared to the Portuguese L1, because this participant would have received all literacy related schooling through the medium of Portuguese. It can also be advanced that both Bantu and Portuguese L1 speakers have shown the use of a battery of reading skills (see Table 26) that include those used by proficient bilingual and biliterate readers, namely supply strategies such as code mixing, translation, and use of cognates for better construction of meaning, and these are believed to be unique and particularly useful for reading in a second language (Jimenez et al., 1995, 1996) and might have played a significant role in the results attained. The only aspect worthy of note is that I do not classify my participants as proficient bilingual readers (essentially with the English language, a FL) due to the IELTS results attained earlier. So it could be said that even non-proficient bilingual readers may use the same battery of reading skills and strategies as proficient bilingual and biliterate individuals. The question would be concerned with the rate of success in task completion and text comprehension and would need further research.

The results above show that L1 Portuguese participants who used Portuguese in the TAM did not perform better than the others in the IELTS, and this is reinforced by the views posited above. Also Table 26 shows that the performance of Portuguese L1 speakers did not differ from that of Bantu L1 speakers. However, there might be some significant differences in the reading strategies selected and used by these respective L1 groups and observed through the TAM. Top

scorers YIT024 and DIT026 (both Portuguese L1) reported the use of a battery of reading strategies and skills that others did not, with the exception of two (ARM and SMT) (see Table 18), namely, *previewing text before reading (MET2)*, *evaluating conflicting information (COG 9)* and *using reference materials (SUP3)*. These reading strategies are at the top of the list of reading strategies used by FL readers in the present study (see Table 22) but are at the bottom of the US and ESL readers' list (Sheorey & Mokhtari, 2001). However these are, broadly speaking, crucial for text comprehension of non-proficient bilingual and biliterate speakers, as shown by the results attained in the TAM task and these alone cannot provide sufficient basis on which to claim that Portuguese L1 speakers who only used Portuguese in TAM performed better than Bantu L1 speakers. The data is thus inconclusive.

1. *What specific reading strategies do participants make use of that could be classified as typical of multilingual foreign language readers?*

As discussed in the previous section, typical reading strategies for FL readers (Bantu and Portuguese L1 speakers) in my study were revealed as those that are placed at the top of the scale in importance by L1 and ESL readers within a Western context, i.e. the US (Sheorey & Mokhtari, 2001). In addition, there are reading strategies that do not even make part of either the top and bottom five reading strategies used by the US and ESL participants studied by Sheorey and Mokhtari (2001). More specifically and convincingly, evidence has shown that the reading strategies (from top to bottom) MRS - identify my weakness to improve reading ability, COG9 - evaluating what is read, COG12 - guessing meaning, and MET7- using context clues, MET2 – previewing text before reading and 11SUP2 – underlining information in text, are typically at the top of the list of the FL readers in my study. Other reading strategies that are typical of the FL participants in the current study are SUP1/SUP4- taking notes while reading/-paraphrasing for better understanding, **SRS**⁵⁰ translate words into Portuguese while reading, SUP5/COG11- going back and forth in the text/-re-reading for better understanding, COG8/MET9-visualizing information read/-predicting or guessing text [words] meanings COG3/COG5- reading slowly

⁵⁰ (see footnote 6, page 74)

and carefully/-adjusting reading rate) (see Tables 20, 21, Chapter 6 and Table 18; see also transcript in Annex J). Some of these strategies (translating into mother tongue, reading slowly and carefully and sometimes reading aloud/sounding out words aloud to guess meaning and being familiarized with sound and associating with a lexical item in mother tongue – L1, Portuguese) are not typically observed in proficient L1 readers but are found in child literacy. It is worth a study to understand why adult learners at tertiary education would behave in such a manner in the process of construing meaning, i.e. why do they activate consciously and/or deliberately their L1 literacy knowledge, beliefs about word-sound correspondence or basic L1 reading strategies to compensate for other reading strategies that may seem to them as not working, and mimic this child (primary school) behaviour? Suffice to say that most of the typical reading strategies observed are listed at the bottom of US and ESL readers' ranking, and in western contexts.

Nonetheless, the list of typical reading strategies by participants in the present study, in an African post-colonial context, is in consonance with findings from other non-western worlds. For example, studies of Chinese proficient university students show the use of a wide-range of supply strategies while reading in English and in Chinese, and reveal higher frequency use of reading strategies while reading in the second (FL) language than in their first language (L1), Chinese, and when reading difficult texts rather than easy ones (Feng & Mokhtari, 1998). Also Chinese students reported using three categories of strategies, namely global, support, and problem solving at a high-frequency level, and two categories of reading strategies, global and problem solving without there being any statistically significant difference found among the three categories of students when using support strategies (Zhang & Wu, 2009). Thus all participants in these studies used support strategies similar to those used by participants in my study. Arabic students showed a high use of strategies overall, with significant differences in the use of meta-cognitive strategies in general and specific strategies related to translating from English to Arabic: the higher the academic and proficiency level, the less translation and high use of meta-cognitive strategies was reported, while the lower the academic and proficiency level, the more they translated (Malcolm, 2009). This was also evident in the study by Karbalaee (2013), where participants also showed the use of the Global and Problem Solving reading strategy, but there was no statistically significant relationship between participants' supply reading strategy use and their RCT scores. Karbalaee's 2013 study shows a direct relationship

with my FL participants in the sense that almost all participants used support or supply strategies, namely translating onto L1 (Portuguese and Bantu), but I cannot confidently generalize this, given that language competence was not tested and as such precise relationship with Malcom's 2009 study would be impossible. My findings showed that weak readers used meta-cognitive strategies more frequently, but that both good and weak readers employed metacognitive, cognitive and supply strategies (also mentioned as bottom-up and top-down strategies in some studies) in almost the same manner, where the greater use of top-down strategies by good readers resulted in a higher tendency to achieve better comprehension of text (Meng, 2006; Karbalaee, 2012).

Proficient bilingual and biliterate readers use what they call "supply strategies" (clearly different from the ones defined by Sheorey and Mokhtari in their 2001 study), such as code mixing, translation, use of cognates while reading a text (Jimenez et al., 1995, 1996) to construe meaning, but without any apparent strong relationship with RCT scores. However it is essential here to point out that the FL participants in my study are not classified as proficient readers of the FL for reasons already discussed in the course of this study, and as such it is somewhat surprising that all used translation and code-mixing and sought for cognates while reading (see section 7.9 on). It could be posited here that even non- proficient bilingual and biliterate FL readers make use of supply strategies at rates that would need to be identified, but the data from this study suggest a somewhat high frequency rate. Could this be due to lack of adequate levels of language knowledge and vocabulary, or does this simply suggest that there is a tendency on the part of FL readers to transfer skills and/or strategies, and even reading ability?

The sole study involving Portuguese L1 speakers (Brazilians) reading FL texts that reported slightly different reading strategy usage is that by Vidal (2002). As has been described, in his study Vidal (2002) pointed to the fact that most of his proficient university participants reported using more metacognitive strategies and less memory and affective strategies and also resorted to compensatory and cognitive strategies to construe meaning and complete tasks (writing). This represents a slight parallel with my study, and despite my non-proficient FL participants, it can be said that the findings of my study show evident use of strategies to compensate for lack of language proficiency and language knowledge of L2. Here I could suggest the use by these

participants of supply and/or support strategies, and hence the compensatory strategies mentioned by Vidal (2002).

2. To what extent is the use of certain strategies or groups of strategies linked to other variables such as gender, language profile and RCT scores?

With the regards to gender and RCT scores, my data revealed that the female participants performed better in both the Pilot Test and the IELTS RCT (see Tables 12 and 14 and Chapter 5, 5.11) but without any major or significant gender differentiation (see Tables 15, 16 and 17). With respect to the Reading comprehension test results in Chapters 5 and 6, revealed a low degree of text comprehension among participants in the IELTS, whereas the pilot test (not an RCT) revealed a group with average, to good, to excellent marks, but not indicative of excellent text comprehension for the reasons discussed in Chapter 5 on the nature of the pilot test itself. Overall, the IELTS results did not reveal a conclusive relationship with the degree of text comprehension and effective use of reading skills and strategies, but an inference based on the types of reading strategies used or needed to construe meaning was attempted, these strategies being a selection of cognitive, metacognitive and possibly all five of the supply strategies (see Chapter 5) which could have yielded better RCT outcomes, although the evidence suggested that these might not in fact have been used. The question is, did participants use these reading strategies (inferred and or observed from TAM)? The answer would be yes: Table 18 shows that almost all TAM participants show evidence of using (or attempting to use) them while reading, but whether they apply them accordingly or effectively to complete tasks and/or construe meaning adequately is food for thought since the TAM task completion and IELTS RCT show otherwise. How does one then determine which group of strategies were used or should be used to correlate with good RCT scores? I propose to single out a group of strategies that has been known to be unique to proficient FL learners, and which the current study has also shown to be characteristic of non-proficient bilingual and biliterate learners: supply or support strategies (Jimenez et al, 1995, 1996). All TAM participants showed themselves to have resorted to and relied heavily on supply strategies, with the exception of MRM004, who used the target language throughout to paraphrase, think, conjure etc. All but two (MRM004 and MAD007) used code-

mixing, translation and cognates throughout but had different RCT scores. One aspect that stood out, and that could possibly be looked at as a strong relationship between the use of a reading strategy and RCT scores, is the use of sight translation. That is, not just the translation of a word or group of words, phrases, but actual voiced translation of text. Sight translation⁵¹ is an interpretation technique used in translation science (conference interpreting and elsewhere). YIT and DIT (both females) used this technique (sight translation) effectively as a reading strategy to construe meaning and were among the best scorers in the IELTS RCT and TAM task completion, giving rise to the question of whether this could be used to correlate gender with good results. There is little evidence as yet to draw any conclusions regarding this finding, and in addition some male participants also resorted to sight translation, although on a smaller scale. What is clear is that there is a trend to resorting to compensatory strategies to construe meaning from FL text as Vidal (2002) found with his Brazilian Portuguese L1 speakers studying ESL. As suggested above (7.6.1), the issue of compensation is once again evident here, and arguments advanced in the previous section (7.6.1) would seem to provide support for the fact that FL readers do find ways to compensate for inadequate L2/FL knowledge and language. It is however necessary to establish in what sort or set of variables this compensation occurs (apart from the already mentioned variable), and this calls for further research into whether it could be that these variables could include academic register, genre, lexis or L2 syntax, and/or others.

7.11 Conclusions

At the beginning of this chapter I proposed to provide an additional lens through which to view and explore issues related to reading comprehension strategies. In the process of my attempting to answer the question (b), to what extent are reading skills/strategies used effectively? and also in the search for other variables, TAM verbalizations showed an evident pattern regarding the constant use of reading strategies. Data from actual thought disclosure revealed that all participants used cognitive, metacognitive and supply reading strategies and were aware of their use of these reading strategies and problem solution skills (Annex J). Most interesting is the

⁵¹ Sight translation can be defined as the reading of a text by the interpreter from the source language into the target language, simultaneously, in a manner in which the content of the document can be easily understood by the audience.

evident use of all cognitive and almost all metacognitive strategies, which is in consonance with studies that have correlated success in reading with the use of metacognitive and cognitive reading strategies by successful first and second-language readers of English (Sheorey & Mokhtari, 2001; Mokhtari & Reichard, 2004; Schoonen et al., 1998; Stevenson et al., 2003; Meng, 2006; Pang, 2008). Yet lack of success in task completion (IELTS RCT and TAM) is an issue to bear in mind when comparing FL readers in a multilingual context with an array of languages, and L1 speakers (English) despite the similar behaviours.

Further I can conclude that weak readers showed inconclusive patterns regarding the effective use of metacognitive, cognitive and supply strategies, but both good and weak scorers (readers) employed all identified strategies in almost the same manner where the greater use of metacognitive and supply strategies by good readers resulted in a higher tendency to achieve better comprehension of text, as Meng (2006) and Karbalaee (2013) had earlier observed for good and weak readers and the use of bottom-up and top down strategies; in my study these did not result in a positive and an apparent strong relationship between reading strategy use and test performance, and text comprehension as a whole. There is, however, the need to compare these strategies more exhaustively using the taxonomies applied in the present study and from this propose a much more conclusive suggestion and/or position. The effective use of reading strategies of participants in my study was, however, to some extent atypical of most studies regarding cognitive and metacognitive reading strategies use by proficient L1 and ESL speakers when grouped together to define a given pattern. The trend observed showed that FL non-proficient readers in my study tended to place and use those metacognitive reading strategies that are closely related to the improvement of reading ability rather the application of such ability to attain comprehension (Table 20). FL participants used (top to bottom) metacognitive and cognitive and supply reading strategies (most relevant for good L1 and ESL readers) with less frequency, and as a result had difficulties in attaining good comprehension of text and results. This trend is also unique because supply strategies that were effectively and chiefly used during TAM by FL readers are also placed in the bottom rank (self-reported rank). There is an evident contradiction between what FL participants claim to use and what they actually use. The reality shows that they rely to a medium to high degree on supply strategies to construe meaning.

As in many of the other studies discussed above, the current non-proficient FL participants have shown, similar to their proficient bilingual and biliterate readers, a use of the same supply strategies, namely code mixing, translation, use of cognates (Jimenez et al., 1995, 1996) to construe meaning, but in the current study these did not have an apparent strong relationship with RCT scores per se. Similarly, there is no relationship with the trial pilot test and the TAM task completion exercise. Nor did gender or L1 factors have any specific relationship with participants' RCT scores or their effective use of reading comprehension strategies – there were very few differences indeed. Finally this atypical (in terms of previous studies) picture evidenced in the current study, clearly revealed reliance on supply strategies (mainly on code-switching and translation), the inverse picture of the most and least used reading strategies when compared to L1 speakers (see Tables 21 and 22, also section 6.5.2), and ultimately the use of sight translation (a technique used in translation sciences) could be explored for pedagogic purposes but would need further studies to provide a solid ground for this.

Should we then, perhaps restate Bernhardt warning regarding the possession of (reading) strategies when she suggested that 'readers who have an array of strategies in their arsenal do not need to be re-taught those strategies' (2011:38) and add that there is a need to realign such strategies with the needs FL learners have to use them to their avail and construe meaning to attain high scores in reading comprehension tests and as such, perhaps, better text comprehension and better literacy skills/competence – one wonders.

Further conclusions are around a concern with the use of TAM in FL research and participants' language handicaps: the language skills of a given participant to enable her or him to verbalize or not thought processes accurately, concurrently or retrospectively, can be hampered by language or other problems. I have described my difficulty deciding whether a participant's problem was a reading task-related or a processing problem or simply lack of an adequate threshold of language necessary for the task of verbalization. Could participants' switching of code and/or translation and use of sight translation be a sign of compensation for this lack of language threshold and or other still hidden problem or deficiency? This is food for thought and calls for further research.

The closing Chapter 8 synthesizes the main aspects discussed in the course of the present study and links with the main salient points in the previous chapters. This final chapter also attempts a presentation of pedagogic implications for the field of EFL teaching and learning, particularly for reading, and for the way forward for future research.

CHAPTER 8 CONCLUSIONS

8.1 Overview

In concluding my study (in its different study phases) I briefly refer back to the introductory chapter. In doing so I summarize the findings and main conclusions, which constitute a systematic response to the questions set out at the beginning of this journey. A platform for a discussion of the congregated conclusions and the implications of the findings is established based upon the main salient conclusions from various studies (reviewed) in each respective chapter, and final remarks and recommendations are presented.

In the introduction to the present study I described in detail the status of the English language within the academic, commerce and communications settings, among others particularly at universities. I described how the high demand for English by academics and students has made courses to assist students to attain a reasonably high English proficiency in academic discourse and academic literacy essential (Balfour, 2002; Pityana, 2005) but that these have been shown to be insufficient in terms of the levels of progress in proficiency in academic literacy of EAL learners at tertiary/Higher Education level in African universities such as those in Mozambique. My study represents a response to this need and the mixed methodology included the carrying out of a Needs Analysis (textbooks), the identification and classification of reading strategies and skills used by students using a variety of reading taxonomies, conducting a reading comprehension test with, and distributing a questionnaire to, students and language teachers to gather data to use as a basis for improving existing EAP and ESP courses at UEM, the *think alouds* to identify reading comprehension strategies purportedly used by participants during *task completion*, and to establish the link this has with reading comprehension. Chapters 1, 3,4,5,6 and 7 provide detailed explanations of each method used. In the least cumbersome way possible the study made use of, and was guided by, the insights offered by the compensatory reading model of second language reading (Bernhardt, 2005, 2011), essentially in terms of the unexplained gaps mentioned by Bernhardt (2005) regarding the ‘50% unexplained variance’ area.

I argue that reading comprehension strategies, engagement, content and domain knowledge, interest, motivation, etc., are variables still to be thoroughly comprehended and should be placed in the this unexplained variance area. My study was thus an attempt to find answers to issues related to the field of text comprehension, reading strategies, and issues of use and awareness of these in a foreign language multilingual context and what, how and why certain variables behave in the process of students reading in a foreign language within a multilingual SLA context, i.e. described as ‘the common term [...] referring to the learning of another language after the native language has been learned [formally or not] (Mitchell & Myles, 1998; Gass & Selinker, 2001; Block, 2003), given the particular multilingual setting of the present study.

The study’s clear intention to use the yet to be explained area in Bernhardt’s 2005 compensatory second language reading model and her expansion work on the issue (2011) is a response to the evident shortcomings of reading models such as the bottom-up, top-down, and interactive models (see Chapters 1 and 2) on L1, and which do not cater for an explanation of the different reading processes in the field of second and foreign language reading involving tertiary education. Despite this, it was clear that these reading models and L1 reading studies (discussed in Chapters 1 and 2 and specific sections throughout the study) have aided the field of research in reading in a foreign language and in establishing a basis for probable explanations and comprehension of second and foreign language reading, but not are not sufficient or appropriate for a particular multilingual context such as mine. Thus devising a study that could yield results that explain what goes on in the field of reading in a second or foreign language, and within a complex postcolonial multilingual context has not been easy and has required great care in designing a set of research questions and sub questions, namely the three main research questions: (a) what skills/strategies learners and users of English in an EAP-ESP context resort to in order to construct meaning from text, (b) to what extent are reading skills/strategies used effectively, i.e. do these learners/users attain the envisaged goal – comprehension, (c) to what extent are these learners/users aware of their own use of such reading skills/strategies? And more specifically the study set out to (i) identify the type of reading strategies used in EAP-EFL contexts; (ii) formulate suggestions for designing a template for an EAP teaching-learning approach to reading courses and ultimately (iii) hoped to apply such an approach in the near future in the process of making suggestions for the design of effective reading courses for the wider university EAP population in general, and the Language Centre EAP-ESP courses, in particular.

8.2 Brief Summary of findings and conclusions of study phases I, II, and III

The study was divided into different study phases in each of which a different research method was applied.

8.2.1 Study Phase I: Needs Analysis

The main findings of this phase revealed a clear intention on the part of the Language Centre to provide the learner with a wide variety of reading skills and/or strategies, i.e. cognitive to a certain degree, and metacognitive and supply strategies to a greater extent, despite the rigid structure of the manuals in which these are framed. Questionnaires distributed to language teachers showed the absence of a clear policy informing the main purpose for delivering English classes to students, denoting a dismembered and unstructured mechanism catering for curricula and/or programme issues, and hence no clear template for reading strategies enhancement or development. The data from this phase of the study confirmed the initial detailed criticism of the analysed manuals which are used to deliver language and reading skills in English (see Chapter 4) in terms of their being out dated and modelled on traditional reading comprehension exercises dating from the seventies. From this I concluded that the use of such textbooks in classes, and/or their methodology, coupled with the way the goals of these courses are defined at UEM, may possibly have affected the development of English language competence and adequate use of reading comprehension skills of students taking these courses and using this material.

Further, I concluded that lack of collaboration from stakeholders (language practitioners) ran counter to scholars' calls for collaboration among various concerned stakeholders, including students, subject teachers, institutional administrators and EAP teachers themselves in terms of finding answers to the how and what of course design and improvement (Tajino, James, & Kijimac, 2005). While I was unable to research this sensitive issue and situation, it seemed obvious to me that an institutional study needed to be carried out to understand the reasons behind the lack of collaboration between stakeholders, i.e. an inquiry into the motivations and perceived purposes, the sense of belonging (or lack of it) in an academic institution, attitudes to

transformation, and the need for institutional agents to understand the aim of doing research, etc. Thus, the central idea posited in this study, i.e. the value of a needs analyses, remains an important and valid option, as well as the urgent need for such an analysis as part of a process of transformation. If one takes a broad and holistic view of the problem of the inadequate development of students' language and reading skills in English at a university such as UEM, a research project such as mine can be seen a 'critical incident', described as 'an event which has significance because it helps us to see things in a new way and thus develop our understanding' (Kerfoot & Winberg, 1997:13) and calls for a structured analysis of the entire system at UEM, hence the idea of reflecting in order that 'improvement of teaching may be achieved through reflection [because] reflection is more than 'thinking' and focuses on the day-to-day classroom teaching and [practices and attitudes] of the individual teacher as well as the institutional structures in which teacher and students 'work' (Kerfoot & Winberg, 1997:17). This kind of collaboration in a transformative process can only take place if the practitioners and stakeholders willingly. In this context researchers such as Yang and Zang (2002) and Jordan (1997) highlighted the need for a variety of alternative research methodologies to facilitate meaningful collaboration between these parties in reviewing outdated course materials and programmes buy into it.

8.2.2 Study Phase II: Reading Comprehension

The main findings from the IELTS revealed a level of comprehension that was good to excellent if test marks (positive marks in the pilot test) are taken into account (see chapter 5 for a breakdown and analysis of scores) However in the IELTS test for the general text comprehension the average mean was very low. I considered the possibility that the different nature of the IELTS RCT test may have influenced the results: the Pilot Test demanded low cognitive reading processing skills for understanding surface meaning only, whereas the IELTS reading test demanded high cognitive and metacognitive processing skills (see annex K) and these results led to conclusions that the participants demonstrated a rather low level of text comprehension, probably due to their not having used a combination of cognitive and metacognitive strategies needed to access comprehension from text as well as the possibility of the FL being a problem making it more difficult for the reader to follow instructions and/or comprehend the task itself,

most likely due to participants being Bantu L1 with Portuguese as L2 .This hypothesis found corroboration in study phase III (Chapter 7) shown by the excessive recourse of participants to Portuguese (cognates and code-mixing, translation) and sight translation to aid with meaning construction.

Thus the ineffective use of reading comprehension strategies resulted in low levels of text comprehension coupled with other factors confirmed in conclusions from studies such as that done by Yang and Zhang (2002) that English language proficiency and metacognitive awareness do affect reading comprehension ability and learners' metacognition has an impact on both EFL proficiency and EFL reading performance. From possible language competence problems (conclusions drawn from my years of experience and teaching and testing practices and RCT test results on reading comprehension) and similarity to other EFL learners (like Chinese college EFL readers in Yang and Zhang's study), I concluded that the need for a sound basis in the foreign language is a *sine qua non* condition for the EFL learner/reader to construe meaning from text more efficiently and effectively and that this should not be seen as separate from their need to have a high degree of metacognitive awareness for the same purpose. I had also concluded from strong evidence from other studies and from the Needs Analysis that the intensive use of outdated and commercially driven textbooks did not help in improving students' language competence, given the focus of the FCE, which did not provide them with adequate strategies to know 'how to understand the main ideas and to find specific information (Witts, 1997 in Alderson, 2000:131), as well as to be able to 'survey the text; analyse the questions; go back to the text to find answers; check the answers'(Witts, 1997 in Alderson, 2000:131) as fast and accurately as possible.

What was clearly shown in the comparison of the IELTS and Pilot Test results was that the rather inadequate use of reading /skills strategies to source out and/or construe meaning from text occurred due to failure to use particular cognitive, metacognitive and supply strategies (see Chapter 5),. corroborated during the TAM phase by indications of participants' failure to plan how to approach the reading of a certain text using certain strategies . In addition, scores from MC and Gap filling tasks such as those in the Pilot Test, do not necessarily reflect the degree of participants' comprehension, this being the reason why the reliability and validity of these types of tests are questioned (Pyrzack, 1975; Bernhardt, 1983; Shohamy, 1984; Alsanian, 1985, Peretz

& Shoam, 1990; Alderson, 1996, 2000). Thus a combination of factors can and need to be understood in order to shed light on the reasons behind the results attained in the Pilot Test and the low scores in the IELTS. The relationship of these results in study phase II with those from study phase III provided some grounds for a number of assertions.

8.2.3 Study Phase III: Cognition and Metacognition

This section of the study provided an additional lens through which to view the answers provided for research questions a) to c) and the subset of questions. Findings are presented in such a manner as to enhance the concluding remarks (preliminary and final).

Question: *(a) what skills/strategies do learners and users of English in an EAP-ESP-EFL context resort to in order to construct meaning from test?* Questionnaire Part II provided grounds for answering this and a number of strategies and/or skills purportedly used fell onto categories: language knowledge and processing ability (word recognition, proposition formation, semantics awareness of text structure, etc.), cognitive ability (use of prior knowledge, mother tongue, etc.) and metacognitive strategic competence. These are consistent with reading strategies found to be used by good readers (Pang, 2008:11), although they were only claims (only a frequency analysis can determine whether my participants were/are good and/or bad readers of texts in the foreign academic language). Of note was the level of metacognitive strategic competence where participants claimed to monitor their comprehension process by means of evaluating and regulating their strategy use to achieve maximum comprehension, and these was in consonance with the use of a number of important reading strategies for reading comprehension by FL which learners use to a greater degree to plan, control and evaluate their own understanding of text; yet unlike the conclusions from studies done by Sheorey and Mokhtari (2001), Mokhtari and Reichard (2004), Schoonen et al.(1998) and Stevenson et al. (2003), which confirmed the use of these by participants to regulate their own reading process and the processing of meaning, I could only claim to make the same assertions based on self-reported claims of use by participants.

The cognitive and metacognitive questionnaire revealed a purported use of a significant number of cognitive and metacognitive reading skills and supply strategies. Relationship with RCT test

results helped me to infer the types of reading strategies used (or needed) to construe meaning and this revealed that a number of cognitive, metacognitive reading strategies may not have been used (see Chapter 6), and possibly not all supply strategies and this may have accounted for the low comprehension mean and RCT results. These data helped in partially answering some of the research questions and related issues and helped shed light on the field of text comprehension and meaning construction in a postcolonial multilingual context involving Portuguese speakers, a step forth towards the comprehension of what goes on the third dimension of the ‘50% unexplained variance’ claimed by Bernhardt (2005, 2011). Bearing in mind Bernhardt’s (2005, 2011) emphasis on the need to know more about comprehension strategies, engagement, content and domain knowledge, interest, motivation, etc., in order to make any definitive claims, I argue that this part of the study dealt with issues pertaining to reading strategies, and learners’ engagement and awareness of use of these strategies, and yielded some explanation for their problems in EFL reading, at least within the boundaries set for the present study.

In the course of comparing the results of the 2001 Sheorey and Mokhtari on the differences in metacognitive awareness of reading strategies among native and non-native ESL readers (see Chapters 6. Sections 6.7 and 6.8, and Table 21) with the results of my study, and plotting my findings alongside those of the Sheorey and Mokhtari (2001) (see Table No. 22, Chapter 6), I was able to show the top five and bottom five individual reading strategy preferences of ESL and US students and FL readers who took part in my study, arranged in descending order by their level of frequency (that is, the most favoured or most often used to least favoured or least used strategies). Sheorey and Mokhtari’s (2001) results revealed a similar trend regarding the position of kinds of strategies used by US and ESL students, and that they are aware of their use of almost all of the strategies. The statements reflecting reading strategy usage in my study (see Tables 19 and 20) revealed that participants in my study were aware and conscious of their reading strategies; however, these showed that the order of positioning of importance of such reading strategies (as assessed by the frequency hits in Table 19) was inverse to that in Sheorey and Mokhtari’s 2001 study which showed that both US and ESL learners attribute the same order of importance, irrespective of their reading ability or gender, to cognitive, metacognitive, and supply strategies when reading academic texts, and these are not the same as those for the FL readers in my study who, in a descending sequence, from top to bottom, revealed a trend that shows reading certain strategies at the top, and claimed these to be most used, and at the bottom

frequency hits results show other reading strategies as the least used (see Chapter 6, Sections 6.7 and 6.8).

This is evident with the bottom five reading strategies of the FL participants in my study. Here, what US and ESL students considered high priority reading strategies, are the low priority reading strategies for the FL readers (see 6.7 and 6.8).

Chapter 2 described good readers as being strategic and strategic readers are able not only to use various strategies skilfully but also to monitor and regulate their strategy use with reference to the on-going comprehension process (Pang, 2008:9), and despite differences in reading in L1 and L2 (see Grabe and Stoller, 2002), more than a few characteristics were seen to be shared between the two types of readers (also the US and ESL students in Sheorey and Mokhtari's 2001 study). Grabe and Stoller's 2002 study suggestion, which refers to most cases that show good FL reader who seem to make every effort to approximate their linguistic proficiency and repertoire of skills and strategies to good L1 readers, was resoundingly confirmed with my FL participants. This confirmation is only related to the reading skills and strategies used and not to issues such as style, etc. It was, however, hard to conclusively claim that use of this repertoire of reading skills and strategies does in fact enhance levels of text comprehension and test performance as with their L1 or ESL counterparts. The findings also suggested an *up-side down* trend of ranking of strategies, thus not mimicking closely the linguistic proficiency and/or repertoire of skills and strategies of a good L1 reader.

The findings also showed that code mixing, translation, and cognates were highly used by participants, confirming earlier tentative conclusions where these were known to be used by proficient bilingual and biliterate readers (Jimenez et al., 1995, 1996). Given that the above strategies are related to linguistic competence (not really tested in this study) in the sense of one being able to switch from one language to another and vice versa, to translate and quickly find synonyms and/or antonyms, a reader must have had the capacity and ability to engage in automatic and rapid processing of word recognition (Booth et al., 1999; Just & Carpenter, 1987; Perfetti, 1985; Pressley, 1998; Nassaji, 2003), the capacity and ability to engage in automatic syntactic parsing and semantic proposition formation (Chen, 1998; Fraser, 2004; Liu & Bever, 2002; Lu, 1999) and possess a reasonable size of vocabulary (language threshold), i.e. probably ranging from 10,000 to 100,000 if measurable (e.g., Alderson, 2000; Barnett, 1986; Carver,

1993; Grabe & Stoller, 2002). Further this reader would have to be aware of text types and discourse organization (Beck et al., 1991; Brantmeier, 2004; Carrell, 1992; Commander & Stanwyck, 1997). The IELTS scores (see Chapter 5, 5.11 and 5.12), coupled with the frequency hits (see Table 19), seem to suggest otherwise - an inverse type of reader. However the evidence was not enough to conclusively claim all participants as bad and/or weak, and as non-strategic readers. Important reading strategies (common to, and ranked high by, L1 and ESL readers) were positioned in the mid and bottom of the list by FL participants (ranks 11-26), where translation was placed in 18th position (despite its use by all participants, this was not at the top of the self-reported used strategies - a paradox or simply an unconscious use of translation as a supply strategy to compensate for lack of language, probably, and/or trust in their L1, *lingua franca*, to resolve conflictual issues and confirm meaning).

My study has also showed that the participants' dimensions and characteristics were mostly in accordance with those described by Pang (2008), and with findings which revealed that FL readers (bilingual and multilingual) use supply strategies with a high frequency and possess a high level of knowledge of cognitive and metacognitive reading strategies (see references in Chapter 6, section 6.7).

My findings however revealed an interesting trend, i.e. high reading ability strategies (Sheorey & Mokhtari, 2001:442) scored low frequency hits in the study (cognitive strategies 3, 4,5,7,8, 11 and 12, and metacognitive strategies 1 and 11), and this suggested that reading strategies that are viewed as indicating 'high' reading ability may not necessarily be the same for FL students studying in a complex multilingual context. For instance 'high' ability reading strategies (US and ESL) (Sheorey & Mokhtari, 2001, Table 2:439), namely cognitive strategies – 1, 4,5,6 and 11, and metacognitive 11, irrespective of the order, are the same but show a completely inverse trend for FL participants in my study (see Table 21). The 'low' ability reading strategies (Sheorey & Mokhtari, 2001) for US and ESL students (SUP 1, 2, 3,4, 5, 6 and MET4 and COG4) are among the '*high frequency hits*' (COG9, MET7, MET2, SUP2) and thus 'high' reading ability strategies for the FL participants in my study. I saw their position as possibly suggesting an indication of a range of possible reasons behind this scenario, some of which (five in all) I was able to hypothetically advance in terms of lack of good formal instruction in the use of reading strategies, in approaches to reading, in using strategies with relation to text features, as well as

low language competence particularly in the FL particularly in transferring L1 strategies to FL (see 6.8.1).

These reading strategies, I saw as critical for learners to be able to construe meaning but. some to be considered to be high priority reading strategies by L1 and ESL readers (Sheorey & Mokhtari, 2001; Feng & Mokhtari, 1998; Meng, 2006; Karbalaee, 2012) and worthy of highlighting to provide an indication of good usage and good reading practice. Despite their inverse positioning and a deviation of the pattern shown by L1 and ESL readers, the analyses in Chapters 6 and 7 showed that the trend does seem to indicate, within the same boundary of probability, that skilled and less skilled readers tend to use certain identifiable strategies linked to specific kinds of reading (Block, 1992; Sheorey & Mokhtari, 2001).

Question: *(c) to what extent are these learners/users aware of their own use of such reading skills/strategies?* Findings from the questionnaire revealed data that help to answer this question, showing that participants are aware of reading skills and strategies as evident in the number of **high frequency hits** around the Likert scales #3= ***I do that sometimes, but not always***, #4= ***I usually do that*** and #5= ***I always do that*** despite a few evident exceptions (Table 18). The results revealed a constant use of metacognitive and supply strategies, mostly used by good readers, resulting in a higher tendency to achieve the overall meaning of the text more successfully than poor readers (Sheorey & Baboczky, 2008). However, the trend shown of use of metacognitive, cognitive and supply strategies and self-awareness of a whole battery of reading strategies seemed to contradict the negative mean score result of the IELTS reading comprehension test, minus 16. 57% (See Tables 17 and 23), suggesting a considerable degree of lack of L2 or FL knowledge, coupled with domain knowledge, an absence of a substantial pool of vocabulary, complex grammar, etc. to compensate for any gaps and support the seemingly adequate use of reading strategies to construe meaning and thus comprehend the text. I return to this issue below in section 8.2.2.

The study by Vidal (2002) s described in detail in 5.3, and discussed in 6.6.1 and 7.4.1, showed that metacognitive strategies were the ones said to be chiefly used by participants, and, and the results indicating the relationship between reported frequency of strategy use and ratings of task

performance on writing tasks, were somewhat blurred. They used memory and affective strategies less frequently, and also resorted to compensatory and cognitive strategies). Social strategies were also reported by participants in his study as being used. Yet he concludes that the connection between successful learners with a large repertoire of high quality reading strategies which they purportedly use might not be as straightforward as other studies have claimed. I discussed in Chapter 7 the application of Vidal's (2002) conclusions to Portuguese L1 speakers studying English as a Foreign Language, and found his claim hard to dismiss due to the scarcity of studies involving these types of learners, essentially in the reading field. The trend in my study, and the data yielded, provided a strong basis for making the same claims as those of Vidal (2002) for both L1 speakers of Portuguese and L1 speakers of other languages who are having to study in English.

It was not possible clearly or conclusively correlate the use of reading comprehension strategies and reading comprehension test scores at this stage of the study and this was discussed in Chapter 7, part II of the study, phase III, but the findings suggest that IELTS test scores do not correlate with claims of high reported use of a battery of cognitive, metacognitive and supply reading strategies by participants. It may, however, be worth emphasising that, these *uncharacteristic* findings, my study tends to show an apparent strong relationship with good reading behaviour in terms of low *frequency hits* on a number of statements (see Tables 19 and 20) although other strategies involving scanning the text, using graphics, figures, punctuation tables, charts or bullets to negotiate the structure of the text) were barely used. Sheorey and Mokhtari (2001) show these reading comprehension strategies to be high priority for L1 and ESL readers and used to aid with meaning construction, and thus one would expect any reader to place scanning at the top of the list; this was not case in my study and could help to explain the RCT results.

In conclusion, the findings show not only the highly packed battery of cognitive and metacognitive strategies that participants deploy to try and construe meaning, but some negative trends regarding the regulation and monitoring of their reading. Despite this I found there to be an apparent strong relationship between reading strategy use and awareness, and the dimensions and characteristics of good and successful FL readers, but an insignificant relationship with the RCT scores. This may be so because metacognition is not detached from cognition, and

consequently key factors in metacognition, knowledge and control, are *'concerned respectively with what readers know about their cognitive resources and their regulation'* (Carrell et al., 1998:101). However but this may also relate to other factors such as insufficient knowledge of the FL. Chapter 6, Section 6.9 best summarises the findings and conclusions of the present study part III. This section provided an additional lens for viewing issues related to reading comprehension strategies, and answered research question (b), to what extent are reading skills/strategies used effectively? This part also built on results from Chapters 5 and 6, and consolidated some of the claims advanced then and resulting from a new subset of questions:

1. Do participants who speak Bantu as L1 perform better than Portuguese L1 speakers?
2. What specific reading strategies do participants make use of that could be classified as typical of multilingual foreign language readers?
3. To what extent is the use of certain strategies or groups of strategies linked to other variables such as gender, language profile, and RCT scores?

Broadly speaking, there is a generic picture that shows findings from the actual thought disclosure (thought verbalizations) of participants, revealing an overall use of cognitive, metacognitive and supply reading strategies by all participants. There is also an evident awareness on the part of participants regarding the use of reading strategies and problem solving skills. Overall results show that a set of specific metacognitive , cognitive, and almost all supply reading comprehension strategies are the ones I identified and observed as chiefly used by all participants. The analyses have revealed that the participants to a great extent use, or purport to use, highly metacognitive strategies with the exception of previewing text before reading (metacognitive 2), and confirming predictions (metcognitive10) only observed and identified to be used by the minority (02 participants), followed by cognitive ones. The findings corroborate similar trends from studies that have correlated metacognitive reading strategies and the use of reading strategies by successful first and second-language readers of English, which showed the use of a larger numbers of cognitive and meta-cognitive reading strategies (setting the purpose for reading, prediction, summarising, questioning, use of text structural features, self-monitoring, and so on, used in planning, control and evaluating of learner's and/or users' own understanding of text and within and during the action aiming at regulating their own reading process and the

processing of meaning) (Sheorey & Mokhtari, 2001; Mokhtari & Reichard, 2004; Schoonen et al., 1998; Stevenson et al., 2003; Meng, 2006; Pang, 2008).

The analyses also revealed an indisputable use of supply strategies by all participants, such as taking notes, underlining information, using reference materials like dictionaries and grammar books, paraphrasing for better understanding, going back and forth in the text and asking oneself questions, in addition to translation in general and sight-translation in a much more specified manner, and the use of cognates both in L1 and the target language. Code-switching or code mixing and translation were the commonest strategies participants resorted to for construing meaning from text and resolving reading tasks. This finding is in consonance with studies done on proficient bilingual and biliterate readers, who use supply strategies (code mixing, translation, use of cognates), which, as has been mentioned, are believed to be unique and particularly useful for reading in a second language (Jimenez et al. 1995, 1996; Feng & Mokhtari, 1998; Calero-Breckheimer & Goetz, 1993; Vidal, 2002; Sheorey & Baboczky, 2008; Malcolm, 2009). Unique and particular to the participants in my study is the use of sight translation, a phenomenon that has never been mentioned as a skill pertaining to FL language learners. The results of the present study are also in conformity with those of recent studies (Zhang & Wu, 2009; Karbalaee, 2012) that showed no statistically significant difference among participants of different categories of competence in the use of support strategies.

The findings of my study confirmed that, despite the evident range of cognitive, metacognitive and supply strategies participants claim to and do use, and the evident awareness they have of these, (Chapters 5 and 6), IELTS results revealed very low levels of text comprehension for both high and low scorers, a trend also observed with the reading task resolution results in the think aloud verbal protocols whose findings revealed that none of the participants, good and poor scorers in IELTS, had all answers correct despite evidence of use of similar cognitive and metacognitive strategies and an overwhelming use of supply strategies. Thus, this suggests a non-significant relationship between the use of a range of reading strategies with task performance, as Vidal (2001) and Karbalaee (2013) showed.

The findings neither support nor contradict Vidal's 2002 finding regarding the relationship between reported frequency of strategy use and ratings of task performance (on writing tasks), which I purposely brought to my study given that writing skills have some relationship with

reading, and the fact that Vidal used only Portuguese L1 speakers. I have mentioned that the results from in my study, like those of Vidal (2002) are also somewhat fuzzy and inconclusive, and seemingly uncharacteristic of the kind of participants in the study, for I had expected the IELTS high scorers to show a similar trend with the TAM reading task. However, the findings revealed a similar trend in the use of cognitive, metacognitive and supply strategies, essentially the use of top-down strategies such as those revealed in the Sheorey and Baboczky (2008) study, but not sufficient to make the same claims as these scholars that the major difference between good and weak readers is the greater use of top-down strategies by good readers resulting in a higher tendency to achieve the overall meaning of the text more successfully than poor readers.

By contrast, while the findings of my study also revealed that weak readers used metacognitive strategies more frequently, and good and weak readers know and use the same strategies, and employ bottom-up and top-down strategies similarly - cognitive, metacognitive and supply – my deduction, if Mokhtari and Reichard's MARS (2002) and Mokhtari and Sheorey's (2002) SORS are used as a comparative platform, and the subscales, Global, support and problem solving strategies are taken into account (Meng, 2006; Karbalaee, 2012), greater use of a high rate of metacognitive, a significant volume of cognitive, and an overwhelming number of supply strategies by good readers in fact resulted in a higher tendency to achieve better comprehension of text. However, the higher scorers in my study, regarding the use of bottom-up and top-down strategies, clearly did not show this trend, i.e. greater use of top-down strategies resulting in high rates of comprehension. An even more striking revelation was that the results of highly competent and fluent participants, and high rated users of reading strategies showed indices of high levels of text comprehension in TAM but scored averagely in the IELTS. The findings from the participants' reported use of reading strategies were almost all in consonance with those in studies by Sheorey and Mokhtari (2001), Mokhtari and Reichard, (2004), Schoonen et al. (1998), and Stevenson et al. (2003). However, the trend shown (see Chapter 6), combined with results yielded in Chapter 7, and the reading comprehension test results in Chapters 5 and 7, tempt one to draw the conclusions set out below; this situation finds resonance with claims by Vidal (2002) regarding the relationship between [...] use of strategies and ratings of task performance when trying to correlate reading strategies use and awareness, and participants'/learners' test results which are rather complex to explain and the situation not as straight forward as it may seem.

Preliminary conclusions from this stage show that:

- i) there is enough evidence to claim that the participants use a battery and a range of cognitive, metacognitive and supply reading strategies commonly used by bilingual and foreign language speakers;
- ii) the study confirms the use of unique features associated with bilingual and foreign language speakers: the use of code-switching and/or code-mixing and the use of cognates to work out word or phrasal meaning ;
- iii) the participants use an array of top-down strategies and bottom-up strategies as do most in multilingual and L1 contexts, but this evidence was not sufficiently conclusive to be able to claim that good readers used top-down strategies better than the poorer readers, and comprehended and/or construed meaning better (the sequence of most and least used reading strategies - purported use- of FL readers was inverse to that of L1 and SL readers in the US (see Chapter 6, section 6.7);
- iv) participants used sight-translation, a strategy not noticeably mentioned in most if not all of the literature I reviewed for the present study (only translation in general was mentioned and in most cases in terms of words or parts of extracts, not the whole text). Perhaps one could see the recourse of FL readers to sight translation as a means to compensate for lack of language competence and/or the ability to construe meaning from using the target language only, a sign of the inability to understand the text as a whole and/or at sentence level;
- v) there is a negative or inverse trend regarding any relationship between strategy use and task success, i.e. there is an apparent strong relationship between reading strategy use and awareness of use, and the dimensions and characteristics of good and successful FL readers, but not a significant relationship with the RCT scores. This may be due to the fact that metacognition is not detached from cognition and consequently two key factors in metacognition, knowledge and control are of insurmountable importance for the reader. And knowing how to adequately interact with text, engage the adequate reading strategies is of essence for an adequate task performance and or meaning construction. Knowledge of cognitive processes and to regulate this

is crucial but research in the field (as per review by Bernhardt 2005:134) shows that there might be still grey areas to understand how a ‘reader who already has a first oral language attempts to cope with material written in a second’ (p.134) and how this reader may use prior knowledge that is text-based or extra-text based, even when this reader has had his fair dosage of ‘all appropriate and relevant knowledge’ and fails to use it or even, as she asserts, this reader may not at times have any apparent relevant or appropriate prior knowledge and didn’t need it. Thus, perhaps here one could suggest that there is a need to look closer and ‘well beneath the superficiality of whether readers “got” a text or did not—the interaction of word recognition, syntax, vocabulary, between and among each other and with prior knowledge’ (Bernhardt, 2005:134) which could affect performance, i.e. task performance and or meaning resulting from the inadequate use or not of all these variables.

Further preliminary conclusions show that

- vi) a very small number of participants have yielded results that can be deemed reasonably good - these have just surpassed the border line of 50%;
- vii) neither L1 nor gender seemed to have had any significant influence over results despite the increased and more efficient use of reading comprehension strategies; seemingly, the explanation for the poor results in the reading comprehension tasks is if anything more confusing (IELTS and TAM task completion).

The subset of questions also yielded grounds for preliminary conclusions that reinforced the above mentioned key points:

- viii) the use of sight translation by almost all participants is intriguing and possibly unique, and may if encouraged in the future play a significant role in text comprehension.
- xi) Finally, non-proficient and non-advanced bilingual readers used the same battery of reading skills and strategies as proficient bilingual and biliterate individuals but the rate of success in task completion differed. In addition a clear trend was revealed, the recourse

of participants to compensatory supply strategies to construe meaning from FL text, a trend Vidal (2002) claimed with his Brazilian Portuguese L1 speakers studying ESL.

Ultimately, the study revealed that it is hard to state clearly and unequivocally the nature of the implications of the findings for FL students in terms of reading comprehension and reading strategy use. There are however some striking issues that could be explored in the development of a template for programmes and learning materials that could cater for the development and enhancement of such strategies in a particular tertiary multilingual context. These are the clear revelation of reliance on metacognitive and supply strategies by all participants, the inverse order of the most and least used reading strategies when compared to L1 speakers (see Tables 21 and 22, also Chapter 6, section 6.6.2), and the use of specific strategies such as translation, sight translation, code mixing, and MRS in particular.

8.3 Grounds for discussion of conclusions

8.3.1 Results of Some Empirical studies

Prior to my final conclusions and the implications deriving from the present study as whole, it is worth noting some important aspects arising from the present study. Several studies have been reviewed, some in depth, and these have helped build a framework within which I can navigate and present some concluding remarks.

The research questions posited at the outset found support in Bernhardt's 2005 compensatory model of second language reading and developments in the field of reading in a FL, findings which were strengthened and given more in depth credibility through the use of a mixed method approach. The reading model showed areas and variables that needed to be understood in the foreign language reading field within a post-colonial context such as mine at UEM (see Chapter 1). In the process of reviewing various reading models (see Chapters 1 and 2), I addressed the gap mentioned by Bernhardt (2005, 2011) by seeking for answers to my questions and consider that I have to a certain extent succeeded, although the findings from other studies in the field (although there are almost none involving Portuguese and Bantu speakers in reading comprehension strategies) have helped substantially in this process.

The investigation of the effective use of reading strategies by FL students is consistent with international studies, which show metacognitive and cognitive and successful reading behaviour in L2 or FL studies, essentially with regard to the use of supply strategies. Although there are a few exceptions, many other studies have shown certain relationships between the use of reading strategies by FL readers and text comprehension, and the effective use and awareness of reading strategies and language competence, mainly in L1, with a few exceptions in L2 and/or FL, even when the variables and methods differed slightly. For instance:

- proficient bilingual and biliterate readers use supply strategies such as code mixing, translation, use of cognates for better construction of meaning and such strategies are believed to be unique and particularly useful for reading in a second language (Jimenez et al., 1995, 1996) This has been confirmed in my study where the participants were not only bilingual but multilingual, yet mostly non-proficient in the FL, English. Thus it should be valid to advance that non-proficient FL readers in a multilingual context with an array of languages (Portuguese and Bantu languages) also use supply strategies such as code mixing, translation, and the use of cognates for more effective and efficient construction of meaning.
- Chinese proficient university students showed the use of wide-ranging supply strategies while reading in English and in Chinese and revealed higher frequency use of reading strategies while reading in the second (FL) language than in their first language (L1), Chinese, and when reading difficult texts than easy ones (Feng & Mohktary, 1998; Calero-Breckheimer & Goetz, 1993; Jimenez et al., 1995, 1996 - the latter two with English and Spanish L1 speakers and Spanish bilingual students). Although I have not studied the use of reading strategies in the L1 (Portuguese or Bantu) of my participants, it is evident that the participants have also used a battery of supply strategies as one of the main strategies to construe meaning, especially when stranded during the reading process and task completion. There is thus a resonance with Chinese proficient students, but once again this is valid for non-proficient FL readers within my context.
- there is an indisputable relationship between metacognitive awareness of reading strategies and performance in reading tests of successful readers (Nezhad, 2006); a statistically significant and positive relationship between Iranian students' overall and also Global and Problem Solving reading strategy use and their RCT scores, but no

statistically significant relationship between participants' Support reading strategy use and their RCT scores, (Karbalaee, 2012). Indeed there is one indisputable finding in my study which revealed that the participants chiefly use metacognitive strategies. There is also an overall use of reading strategies (all categories where metacognitive strategies were chiefly used rather than cognitive and supply strategies). Nevertheless, test performance was low and/or negative and an insignificant relationship between the use of reading strategies (metacognitive included) was revealed (the only contradiction with Nezhad's and Karbalaee's study).

- students who self-rate their reading abilities in English as strong readers have a higher mean on the global strategies subscale and weak readers use metacognitive strategies more frequently, but good and weak readers are aware of and use the same strategies, hence employing bottom-up strategies similarly, the major difference being the greater use of top-down strategies by good readers resulting in a higher tendency to achieve the overall comprehension of the text more successfully than poor readers (Sheorey & Baboczky, 2008). Chinese students reported using three categories of strategies (global, support, and problem solving) at a high-frequency level where high-proficiency students outperformed the intermediate and the low-proficiency ones in two categories of reading strategies (global and problem solving), but no statistically significant difference was found among the three categories of students when using support strategies (Zhang & Wu, 2009). The relationship with my study is not necessarily the self-rating aspect in Sheorey and Baboczky's 2008 study or Zhang and Wu's 2009 outperformance level between high-proficient and intermediate and low-proficient students. However both high and low scorers in my study mostly employed similar strategy types and were all aware of their actual use. Nonetheless, my FL high scorers (strong readers, perhaps) operating within a context with an array of languages failed to surpass the low scorers (weak readers, perhaps) in achieving the overall meaning of the text more successfully.
- students in Bahrain showed a high use of strategies overall, but significant differences in the use of metacognitive strategies in general and in specific strategies related to translating from English to Arabic. High academic and proficiency level, and less translation and high use of meta-cognitive strategies were reported, while the lower the academic and proficiency level, the more they translated (Malcolm, 2009). What is

surprisingly is that the use of translation and sight translation in my study was by the top scorers who could be deemed strong readers, if measurement is taken using the IELTS results and TAM task. Perhaps here the strong readers (more fluent given their capacity to sight-translate) used supply strategies not only to compensate for lack of language competence, vocabulary, domain, etc., but because they felt confident in crosschecking and confirming their understanding and/or meaning construction with the aid of a familiar language, one in which they might have a better understanding, usage capacity and ability as well as one language that was their former medium of instruction.

- using *think-alouds* to explore patterns of reading strategy use by good and weak advanced EFL readers revealed that weak readers use meta-cognitive strategies more frequently and that good and weak readers know and use the same strategies, and employ bottom-up strategies similarly, the difference being the greater use of top-down strategies by good readers resulting in a higher tendency to achieve better comprehension of text (Meng, 2006; Karbalaee, 2012). Using think-aloud tasks, L1 monolingual and bilingual Dutch students showed some similarities in the use and awareness of strategies with those by first and second (FL) language students: the *kinds* of strategies used by the students were very similar in both L1 and FL, but only differed in terms of the *frequency* with which those strategies were used across languages (Stevenson et al., 2003; Brunfaut, 2008; Feng & Mokhtari, 1998). This was evident in my study where top and low scorers used similar reading strategies with very minor nuances, and when I compared L1 and USL readers in Sheorey and Mokhtari's 2001 study with my FL Portuguese and Bantu L1 readers, and frequency hits rating different reading strategies was accordingly different when these kinds of readers were compared. Suffice it to say here that the similarities in the use of the different kinds of strategies were also sourced from using think aloud methods. One major difference that should again be noted is that neither high nor low scorers achieved better overall comprehension, with the exception of a very few.

Similarly, in the present study, while it could mostly be shown that there is a relationship, with the exception of a very few cases, between the use of reading skills/strategies and reading comprehension, I have failed to clearly show a positive relationship. There was however a clear indication of good or successful reading behaviour being linked with a higher use of reading

strategies to construe meaning in an EFL context, as is also the case in L1, despite the inverse positioning of reading strategies. The relationship between metacognitive reading strategies and the use of reading strategies by first and second-language readers of English showed that successful readers use larger numbers of cognitive and metacognitive reading strategies. This corroborates the idea posited earlier in the study in which we stated that a number of very important reading strategies to plan, control and evaluate own understanding of text are used by learners to a greater degree (Sheorey & Mokhtari, 2001; Mokhtari & Reichard, 2004; Schoonen et al., 1998; Stevenson et al., 2003; Pang, 2008).

8.3.2 Main Conclusions and Implications

At this point of the study I bring together all unresolved issues, present my main concluding remarks and the implications of the study for future developments in EAP and ESP curricula in multilingual contexts. I hope to bring to this section what I have learned in the course of this study that may be of use in shedding light on, and positioning my research in the ‘50% unexplained variance’ area (Bernhardt, 2005) and her further developments (2011). Bernhardt (2005) addresses the need to understand such variables as comprehension strategies, engagement, content and domain knowledge, interest, motivation, etc. I have concentrated on text comprehension, reading comprehension strategies and issues of use and awareness of these in a post-colonial multilingual context such as that at UEM (see Chapters 1 and 3).

Bernhardt’s (2005) model of second language reading, which acknowledges and emphasises the necessary components of a contemporary L2 reading model, including L1 literacy level, L2 knowledge level and the interactions of background knowledge, processing strategies, vocabulary level, and relationships between and among various cognate and non-cognate L1s and L2s. Thus this model, which examines emerging L1/L2 readers in addition to adult L2 readers, is crucial in terms of researching settings such as mine. My context, and the participants in my study, yielded a quantity of qualitative data to support Bernhardt’s (2005) assertion of the existence of a high probability of a reader who ‘had all appropriate and relevant knowledge’ and failing to use it and/or at times ‘no apparent relevant or appropriate prior knowledge’ and yet ‘didn’t need it’ to comprehend text. These data are sufficient to shed some dim yet revealing

light on part of the unexplained variance advanced by Bernhardt's 2005 compensatory reading model, which essentially describes a kind of reader who has a high level of awareness of reading strategies and uses them appropriately, yet fails to manage L2 reading tasks adequately.

Bernhardt's 2005 model of reading calls for a model of compensation in the field of language reading that:

... must enable a conceptualization of comprehension as consisting of different elements and influences (not just raw grammar and vocabulary). Different languages realize their meanings with different surface structures (such as restrictive word order in English versus relatively free word order in German) and models have to acknowledge that to move toward higher levels of proficiency, readers must acquire processing strategies specific to the language at hand. Further, a viable model of second language reading must also concede that in the reading of cognate languages there is no such thing as "no knowledge" if the reader is already literate and, at the same time, admit that when switching to noncognate languages, the threshold is set at a very different point. (Bernhardt, 2005:138)

This proposition has been explored in my study and I consider the holistic mixed approach used to have revealed some of the intricate operations taking place in FL reading in a multilingual context. This can be summarised in the following:

1. There is more to foreign language reading than just syntax, vocabulary, grammar and the orthographic nature of a language, sociocultural reader variables, and sociocultural text variables. The 'more' includes *text structure* and phonological aspects of reading and their connections with language modalities such as writing. The long list of studies supporting these was presented in the introductory chapter. Here, my study revealed the high degree of awareness of reading strategies on the part of participants but their poor ability to manage reading tasks, hence the probability of not being able to manage text well, denoting a weak ability to go beyond the simple and non-complex issues of text components.
2. With regard to the '50% unexplained variance', my findings revealed novel issues, for example, an inverse sequencing of most and least used reading comprehension strategies for a FL multilingual context (different from that of L1 and ESL), and the extensive use of sight translation as a compensatory and supply tool to aid comprehension. The study also confirmed the use of supply reading comprehension strategies like code mixing, use of cognates, and translation that FL biliterate readers have been shown to employ and

showed that this applies to Bantu language speakers learning EFL and operating within a multilingual context filled with an array of L1 languages (both formally and non-formally taught), such as Portuguese and Bantu languages (CiShangane, Emakhuwa, and CiShona).

3. One of the implications of all of this is that Bernhardt's 2005 compensatory model of second language reading (See Chapter 1, Figure 1) and the expansion on her 2011 work could undergo a further evolution and show in its third dimension a slightly lower unexplained variance than the 50%. My conclusions in chapters 4, 5, and essentially Chapters 6 and 7, together with the discussion in Section 8.2.1 above, have provided the necessary background to justify an evolution in the field to explain the performance and the traits of reading in a foreign language and in a biliterate multilingual context where Portuguese and Bantu languages are used, despite the existence of a very few number of studies involving Portuguese speakers. This slightly lower unexplained variance, though hard to quantify, can be explained by the fact that FL participants have shown awareness and effective use of reading strategies but with a negative relationship with text comprehension and meaning construction (results from the IELTS reading comprehension test). Further, the participants, good and poor readers, used a battery of metacognitive (mostly) and cognitive strategies similarly and were shown to use unique supply reading strategies associated with bilingual and biliterate foreign language students (Jimenez et al., 1995, 1996) although it was clear in my study that the use of these was not effective, hinting at the existence of a language problem, i.e. mastery of the foreign language, English, which could be coupled with issues pertaining with affect, motivation, background knowledge, socio-cultural aspects that need further studies.
4. At this point in time it is hard to state clearly what the implications of the findings of this study are for the development of programmes, pedagogies and teaching and learning materials. Given the lack of collaboration of my colleagues (see chapters 4 and 5), one could explore the high scores in the pilot test (geared by an adequate ability to resolve tasks that needed low ability skills) and, coupled with the undoubted use of metacognitive and cognitive reading strategies (ranked as low priority for L1 readers) could use these to inform the development of or search for materials that could enhance these abilities and eventually develop high ability FL readers. Some of the striking findings of FL readers'

reliance on supply strategies (mainly on code-switching, sight translation), the most and least used reading strategies when compared with L1 speakers (see Table 20 and 22, also Chapter 6, section 6.6.2) and ultimately their use of translation, sight translation, code-mixing and a high degree of use of metacognitive strategies, could be explored in the development of such a project. The fact that FL participants in the current study have shown a whole new trend in the use of reading skills and strategies (i.e. when compared with US and ESL readers), despite poor RCT results, shows that these issues alone could trigger a whole new trend in materials development for such specific multilingual contexts. However, although it is perhaps premature to make any concluding remarks with certainty, there are enough grounds for further research, perhaps with a larger number of participants, although TAM allows for and advises smaller samples (Nielson, 1994; Kopriva, 2001) so that the conclusions can be more widely accepted. One other implication is related to the use of MRS (metacognitive reading strategies) as a whole differently from those chiefly used by L1 and ESL students at tertiary level. Contrary to Grabe and Stoller's (2002) assertion that good FL readers seem to go to great lengths to mimic and approximate their own linguistic proficiency and repertoire of skills and strategies to those found in a good L1 readers, the FL participants in the study did *au contraire* not mimic the positioning of most and least reading strategies of L1 readers; while FL readers used more MRS, I cannot generalize this conclusion to the entire field of reading in a foreign language but the evidence should be taken into account when designing materials, courses, and perhaps when describing FL reading in contexts similar to mine;

5. Further implications are in the form of recommendations for further studies that would tackle issues around the lack of will by language practitioners and teachers to collaborate in studies intended to improve their own working and study conditions, apart from the quality of their courses, materials and pedagogy (Chapter 4), i.e. looking at motivational purposes, the sense of belonging in an academic institution and being part of its development, and the need to understand the aim of research.

8.4 Final Word

After a closer look at my preliminary conclusions, and substantiated by conclusions from all the phases of the present study, I am tempted to state categorically that there is indeed a language problem amongst students at UEM. While all participants (weak and strong) used (almost) all reading strategies and were aware of them (cf. TAM results in chapter 7), deficits in the target language, coupled with the RCT results, lead me to suggest that they remain ‘non-proficient’ readers in their L2, and that it is a language problem. Task performance did reveal very low results despite the good to excellent marks in the Pilot Test for the reasons given in Chapter 5; these had initially provided the impression of the absence of a reading and/or language problem (Alderson, 2000; Bernhardt, 2005) but, as participants engaged with high priority and high order strategies, perhaps those demanded by IELTS RCT, for example, they were at a loss and revealed low scores. This situation has the potential to lead to a lack of mastery of the target language by the participants (especially when performance and meaning construction demanded higher order skills as was the case with the IELTS), and as such they have not reached the adequate threshold to aid them with text comprehension. With the exception of a very few number of the participants (see Chapters 5, 6 and 7 for top scorers and TAM), all have shown reading problems which I would argue are not associated with a lack of reading strategies (they have used reading strategies and mimicked good L1 readers at times, except when ranking purported use of reading strategies) but, possibly a lack of an adequate language threshold and mastery of the FL (a 3rd or 4th language for most) may be related to what Bernhardt classifies as inadequate language knowledge (2011). This particular aspect is an added variable yet an issue that has its hurdles when one sets to quantify it and thus be accountable in the 50% unexplained variance advanced by Bernhardt (2005, 2011) in her compensatory model of reading in a second language.

My initial final conclusions lead me to suggest that, while there is no doubt that these participants, within the context described, are predisposed to use metacognitive reading strategies to construe meaning, the chief use of metacognitive reading strategies is not isolated, and cognitive strategies that are ‘high’ ability reading strategies for L1 (Sheorey & Mokhtari, 2001) are also used despite not being rated as such by the FL participants in the process of reading and meaning construction. Clearly, code switching, translation and sight-translation and

cognates are used to aid meaning construction when ‘the going gets tough’ and/or when trust in understanding of the target language seems to fade; hence the compensatory side of the reading model. Alternatively it could simply be that students use the language that is most familiar to resolve conflicting information or confirm meaning, i.e. this could either be a sign of lack of an adequate L2 language threshold, or simply be related to their being ‘accustomed’ to using Portuguese as a communication and comprehension vehicle. Bernhardt’s 2005 model is three dimensional in nature and captures the current knowledge base regarding literacy knowledge, language knowledge with a particular emphasis on vocabulary, and dimensions under investigation, but not yet explained. Because the model illustrated the non-additive nature of knowledge sources, but operating in synchrony in an interactive manner and drawing synergies from different variables, one would suggest deepening the knowledge we have with regards to FL reading and FL text comprehension.

While Bernhardt (2011) posits that , “learning ... has to be about engagement—in other words about getting learners involved in the subject matter so that they have it with them the rest of their lives” (Bernhardt, 2011:113), many are the question around how we, scholars, teachers, language practitioners account for this. Perhaps it is at this point of the study it is time to return again to the compensatory model of second language reading, and in so doing, “one should be able to probe whether an instructor accounts for the first-language literacy knowledge base: whether readers are enabled to rely on what they can read in their first language as a linguistic and conceptual anchor and whether we, scholars, teachers, instructors fully “understand the nature of the strategies individual readers employ, such as whether they use a dictionary, what type of dictionary it is, whether the person turns to hypertext environments, using translation (software), code-switching, transcoding, understanding metaphoric language or how to analyze a poem for rhyme and meter (for advanced and sophisticated readers)....” (Bernhardt, 2011:13), whether linguistic dimensions of the text at hand were taken into account or not. In answering her, perhaps inadequately, but resorting back to the isolation of some of variables, and yet not detached, I could say that I have attempted in a holistic and synergistic way to bring to light some of variables that could be used to fill in the gaps of the ‘50% unexplained variance’ in the compensatory model, i.e. the 2005 and the 2011 versions. I have shown that there is a language problem with FL readers despite an evident (purported) use of a battery of reading skills, yet no significant relationship with text comprehension, and that this is perhaps due to lack of L2

linguistic knowledge that results in the use by FL students of supply strategies such as translation and sight translation, or perhaps their lack of knowledge of text structure or discipline specific vocabulary (L1 literacy triggers strategy use rather differently from L1 readers, at least with different frequencies).

Would I close this study by bluntly accepting Alderson's (1984, 2000) and Bernhardt's (1999, 2000, 2005, 2011) suggestions regarding text comprehension of reading materials, articles, academic texts not necessarily being a language problem? The study provided grounds to suggest that when there is a FL problem, and that is precisely when higher order strategies should be in place and need to be applied, participants show a weakness in attempting to use these utilize reading strategies adequately to compensate for any gaps in their text comprehension, and to manage tasks. I have demonstrated through the study that all the needed tools for a better construction of meaning have been provided (even with outdated textbooks) and catered for, and the users/readers have utilised them to hypothesise and then use the findings to their advantage, but have somehow failed to construe meaning adequately, and failed to score positively in the RCT. Thus I should insist, justifiably, on the existence of a language problem in the reading process of FL (speakers of Portuguese and Bantu languages) within a multilingual tertiary context. Thus, there is a need for further research to narrow the gap posited by Bernhardt's 2005 compensatory model of second language reading and its revised version (2011:38) which could hopefully turn it into a compensatory reading model for foreign language applicable to the multilingual context described in my study. This context has suffered misconceptions such as

“when second-language readers misinterpret, teachers not well-informed in theory and research often judge them as not being sophisticated or not well-educated, when those teachers should recognize that a reader's misinterpretation may be rooted in inappropriate background knowledge for the interpretive text at hand” (Bernhardt, 2011:114).

The conceptualization of second language reading in a context with an array of languages

“calls for exploring second-language reading within the context of first-language literacy knowledge as well as second-language grammatical knowledge as critical variables about which we seem to have some reliable knowledge” (Bernhardt, 2011:128).

I thus concur that future research should take into account these variables, those identified and

discussed in the present study, and those from previous studies, while examining “other” variables, ultimately to provide the solid ground we need to help clarify the nature of those “other” variables and fill the gaps in our understanding of the mechanisms of compensation in reading in a second or foreign language.

And my quest to understand advanced reading in a second language would in the future entail the underlining of the multivariate and recursive nature of second-language text processing and the ways in which the use of reading comprehension strategies and other variables can feed this understanding to develop a more substantive theoretical platform.

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ANNEXES

ANNEX A

Table No. 1A

Taxonomy of Reading Strategies in Year 1 English Textbooks used in academic semesters 1-2 or 1-4

Faculty of Science, Physics Department.

Degree Course: Undergraduate Degree in Physics

Academic semesters: 2

Textbook: Soto, M S (1985). PHYSICS – Developing Reading Skills in English. Pergamon Press Ltd.

Type of exercises:

The textbook has 20 units each with a reading passage followed by exercises and activities under the following headings *Understanding the Aim and Organization of the Passage*, *Understanding the Text and Study Skills*, as detailed below:

- Understanding the aim and organization of the passage – mainly skimming exercises (M/C; providing subtitles/headings; identify paragraphs; a variety of matching activities/exercises; Factual questions ;...)
- Understanding the Text (referencing; vocabulary – synonyms and antonyms, meanings; sentence/text completion; matching exercises; completion of diagrams/tables with key words/phrases; affixation and suffixation)
- Study skills (identify key words/phrases; note-taking; text completion with words from text; T/F; diagram labelling/ description; rearrange statements;)

Complementary materials:

- Swales, J (1979). Writing Scientific English. Butler & Tanner Ltd, Frome and London.
- Handouts produced by teachers;
- Reference books

Reading Strategy	Typology of strategy		List of identified strategies
Cognitive/ metacognitive Strategies	Academic support strategies	SUP3(Sh &Mk). **	Using dictionaries√
		SUP4(Sh &Mk).	Paraphrasing√
		SUP3(Sh &Mk).	Reference and bibliographies√
		Skills 3+4(Munby).	Assignment comprehension√
		Skills 3+4(Munby).	Comprehending instructions√
		MET6(Sh &Mk).	Comprehension of grading scheme√
	Text comprehension strategies	Skills 16, (Munby); 13(Weir).	Scanning √
		Skills 15 (Munby); 12 (Weir).	Skimming√
		(wide range skills/Strt +++)*.	Read efficiently√
		Skills 13 (Weir).	Identify key words√
		Skills 12-13(Munby); 14 (Weir);SUP1(Sh &Mk).	Note-taking√
		MET4(Sh &Mk); Skills1,7- 9(Munby); skills 1,3-5 (Weir).	Text structure recognition√
		(wide range skills/Strt +++)*.	Recall/memorize text data√
		Skills 2(Munby); 2+9(Weir)+++.*	Inferences√
		Skills 2(Weir) +++.*	Decoding long sentences√

	Language focus	Skills 5,10-11(Weir);11-13,17 (Munby);MET7-9 (Sh &Mk).	Classifying and grouping vocabulary/lexical items√
		Skills 17 (Munby); 11 (Weir).	Transcoding info to diagrammatic display
		MET7-10, COG1,12 (Sh &Mk); Skills 2(Munby), 2(Weir).	Guessing meaning (unknown words/phrases) for (i) sentence completion√ (ii) sentence construction√ (iii) summarising √

* This strategy can fit a number of skills and or strategies.

** Sh & Mk = Sheorey and Mokhtari

+++* covers a wide range of reading strategies

Table partly adapted from Lynn Errey and Huijie Li (2008). Oxford Brookes University, UK and Harbin Institute of Technology, China.

ANNEX B

Table No. 2B

Faculty of Science, Biology and Forestry Department.

Degree Course: Undergraduate Degree in Biology

Academic semesters: 2

Textbook: Pearson, I (1985) English in Biological Sciences. UP

Type of exercises:

The textbook is made of 8 units with two Reading Sections (I and V) out of five in every unit, namely, Section I dealing with *Reading and Comprehension* and Section V dealing with *Reading and Note Taking*.

Section I: listing important points; finding out about the meaning of words; checking facts and ideas; connecting facts and ideas; definitions and naming statements; avoiding repetition; finding the topic of a paragraph; using words and phrases with similar meanings; distinguishing facts and beliefs; assessing the truth of statements; relating what we read to what we know.

Section V: note taking to enhance scanning and skimming skills and text comprehension, i.e. find detailed info, data, parts of the text (word, line, paragraph, section), matching exercises, rearrange text/paragraphs, summarize, labelling, transfer data/info, answer factual questions using notes, deducing/inference;

Complementary materials:

- Swales, J (1979). Writing Scientific English. Butler & Tanner Ltd, Frome and London.
- Handouts produced by teachers
- Reference books

Reading Strategy	Typology of strategy		List of identified strategies
Cognitive/ metacognitive Strategies	Academic support strategies	SUP3(Sh &Mk). **	Using dictionaries√
		SUP4(Sh &Mk).	Paraphrasing√
		Skills 3+4(Munby).	Assignment comprehension√
		Skills 3+4(Munby).	Comprehending instructions√
		MET6(Sh &Mk).	Comprehension of grading scheme√
	Text comprehension strategies	Skills 16, (Munby); 13(Weir).	Scanning √
		Skills 15 ()Munby; 12 (Weir).	Skimming√
		(wide range skills/Strt +++)*.	Read efficiently√
		MET9(Sh &Mk);	Predicting or guessing text meaning
		MET10(Sh &Mk);	Confirming predictions
		COG 1(Sh &Mk);	Using prior knowledge
		MET4(Sh &Mk); Skills1,7- 9(Munby); skills 1,3-5 (Weir).	Text structure recognition√
		(wide range skills/Strt +++)*.	Recall/memorize text data√
		Skills 2(Munby); 2+9(Weir)+++.*	Inferences√
		Skills 2(Weir) +++.*	Decoding long sentences√

	Language focus	Skills 5,10-11(Weir);11-13,17 (Munby);MET7-9 (Sh &Mk).	Classifying and grouping vocabulary/lexical items√
		Skills 17 (Munby); 11 (Weir).	Transcoding info to diagrammatic display
		MET7-10, COG1,12 (Sh &Mk); Skills 2(Munby), 2(Weir).	Guessing meaning (unknown words/phrases) for (i) sentence completion√ (ii) sentence construction√ (iii) summarising √

* This strategy can fit a number of skills and or strategies.

** Sh & Mk = Sheorey and Mokhtari

+++* covers a wide range of reading strategies

Table partly adapted from Lynn Errey and Huijie Li (2008). Oxford Brookes University, UK and Harbin Institute of Technology, China.

ANNEX C

Faculty of Arts and Social Sciences

Degree Course: Undergraduate Degree Translation and Interpretation (English-Portuguese)

Academic semesters: 8

Textbook: Mann, R. With Jan Bell and Roger Gower (2003). *First Certificate Expert*. CUP

Type of exercises:

The textbook is made of 24 units with 1 Reading part (paper)

Table No. 3C

Reading Strategy	Typology of strategy		List of identified strategies
	Academic support strategies	Skills 3+4(Munby).	Comprehending instructions√
		Skills 16, (Munby); 13(Weir).	Scanning √
		Skills 15 ()Munby; 12 (Weir).	Skimming√
		MET9(Sh &Mk);	Predicting or guessing text meaning

Cognitive/ metacognitive Strategies	Text comprehension strategies	MET4(Sh &Mk); Skills1,7-9(Munby); skills 1,3-5 (Weir).	Text structure recognition√
		Skills 2(Munby); 2+9(Weir)+++.*	Inferences√
	Language focus	Skills 5,10-11(Weir);11-13,17 (Munby);MET7-9 (Sh &Mk).	Classifying and grouping vocabulary/lexical items√
		Skills 17 (Munby); 11 (Weir).	Transcoding info to diagrammatic display
		MET7-10, COG1,12 (Sh &Mk); Skills 2(Munby), 2(Weir).	Guessing meaning (unknown words/phrases) for (i) sentence completion√ (ii) sentence construction√ (iii) summarising √

Table partly adapted from Lynn Errey and Huijie Li (2008). Oxford Brookes University, UK and Harbin Institute of Technology, China.

ANNEX D QUESTIONNAIRES

Q#1

PART I: BIO DATA

Please select the item that is appropriate to you. Mark with **X** or tick where appropriate. DO NOT WRITE on shaded parts.

1. Age	18-20	47		20-25			25-35			Over 35	+	
2. Gender	Male	+		Female								
3. How long have you been teaching English?												
	5-6 years			7-9 years			10-15 years			over 15 years	+	
4. How long have you been teaching English at the Eduardo Mondlane University ?												
0-5 years				5-6 years			7-9 years			10-15 years	+	
										over 15 years		
5. Have you ever studied in a country where the official language was English?												
	Yes	+		No								
6. If Yes, specify: England												

7. Nationality	Mozambican	+		O th er :	
8. If Other, specify:					

PART II: DATA ON THE ENGLISH SUBJECT/COURSE AT UEM

Please mark with the letter X or tick where appropriate.

A. Overview of the subject/course: _____

1) What is the purpose of the subject/course?

for a degree

course. _____

2) Describe the students who attend/take this subject/course.

_Myself, I have never worked with this group of the students, but I believe that at the beginning of the course, the students bring different levels of command of the language which is upgraded as the course goes on.

3) What is the duration/length of the subject/course? (in weeks/months/semesters/years)

_____ Four years I
 suppose _____

4) Is successful completion of this course a pre-requisite to get a degree?

If not, why?

_____ I think so. Depending on how the contents are delivered, I mean the methodology used. _____

5) When the students complete the required requisites of the subject/course who do you report their results to? Why?

_____The coordinator of the course, Because he works in accordance with the department of the language._____

B. Analysis of curriculum/Type of course

6) Describe the subject/course? You can tick () more than one option.

☐ General English +

☐ English for Specific Purposes (ESP)

☐ English for Academic Purposes (EAP) +

☐ Other. If other, specify _____

Please add any additional information about the course.

7) What is the entry level English requirement for this subject/course?

_____The student must have completed the secondary level_____

8) At what level is this subject/course taught?

☐ Beginner

☐ False Beginner

☐ Elementary

☐ Intermediate +

☐ Upper Intermediate +

☐ Advanced +

Please add more specific information about the level, if none above is appropriate.

9) Which skills need to be covered in the subject/course?

☐ Listening +

☐ Speaking +

☐ Reading +

☐ Writing +

a) What percentage of the time on the subject/course is spent on developing students' listening skills? 20 (%)

Please add more specific information about the teaching of the skill. _____

_____ There should days concentrated on that skill. _____

What percentage of the subject/course is spent on developing students' speaking skills? 20 (%)

Please add more specific information about the teaching of this skill.

_____ there should allocated hour for this very skill _____

c) What percentage of the subject/course is spent on developing students' reading skills?

30 (%)

Please add more specific information about the teaching of this skill.

_____ Student need much time for this skill _____

d) What percentage of the subject/course is spent on developing students' writing skills?

30 (%)

Please add more specific information about the teaching of this skill. _____ They also need much time for this skill _____

10) What content material do you usually use with this subject/course?

Tick (☐) more than one option if applicable.

☐ Commercially-produced generalist text +

☐ Commercially-produced English for Specific Purposes (ESP) text +

☐ Commercially-produced English for Academic Purposes (EAP) text +

☐ Generalist authentic texts, e.g. newspapers, journals, DVDs, on-line materials

_ Specialist authentic texts, e.g. technical manuals, university lecture notes, textbooks +

Please record the names of commercially-produced material, and add more specific information about any specialist or authentic texts

11. Is the use of the above content material(s) compulsory?

_____Not that I know_____

If yes, who makes the decision on which content material(s) or book(s) to be used?

C. Language requirements of students

12. What speaking skills do students require on exit from the course?

Tick () more than one option if applicable.

_ No speaking requirement (ESP course) +

_ Interacting in everyday social & routine workplace situations +

_ Participating in small discussion groups related to work or study +

_ Delivering briefs/presentations to a specialist audience +

_ Responding to questions in an area related to technical/academic expertise Communicating ideas in both a formal & informal register depending on audience +

_ Using subject-specialist vocabulary to communicate ideas +

_ Using idiom & colloquial expressions to communicate ideas +

_ Communicating ideas with fluency +

_ Other (please detail)

Please give specific examples of how students will use their speaking skills:

13. What listening skills do students require on exit from this course?

Tick () more than one option if applicable.

☐ No listening requirement (ESP course)

☐ Comprehending conversations on every day social & routine job-related themes +

☐ Listening to extended lectures/briefs and summarising main ideas in note form +

☐ Listening to extended lectures/briefs & paraphrasing main ideas & supporting details +

☐ Comprehending technical/academic vocabulary in professional settings +

☐ Comprehending speech delivered with native-speaker fluency +

☐ Other (please detail)

Please give specific examples of how students will use their listening skills

14. What reading skills do students require on exit from the course?

Tick () more than one option if applicable.

☐ No reading requirement (ESP course)

☐ Reading a range of general authentic texts on every day social and routine job related themes, e.g. newspapers, briefs +

☐ Interpreting data in tables & diagrams +

☐ Reading extended technical & academic texts to identify main ideas & supporting details +

☐ Understanding a wide range of technical/academic vocabulary in professional settings +

☐ Reading a range of texts related to specialist area of expertise to understand the author's point of view or purpose +

☐ Other (please detail)

Please give specific examples of how students will use their reading skills:

15. What writing skills do students require on exit from the course?

Tick (☐) more than one option if applicable.

☐ No writing requirement (ESP course)

☐ Writing formal & informal correspondence & documents on practical, social & professional topics. +

☐ Writing essay length papers on areas of technical or academic expertise +

☐ Summarising & paraphrasing to present information in paragraphs or an essay +

☐ Using linear organisation of ideas to present ideas in a logical manner +

☐ Using a wide range of technical/academic vocabulary in writing +

☐ Other (please detail)

Please give specific examples of how students will use their writing skills:

D. Independent learning skills

16. Tick (✓) which independent learning skills the students will require during the provision of the subject/ course

☐ Using pair work & group work, e.g. jigsaw reading or listening tasks +

☐ Experimenting with new language, e.g. guided writing or role-plays +

☐ Using different reading strategies for different tasks, e.g. reading newspapers or specialist journal articles +

☐ The ability to self-assess own language learning +

☐ Working out answers using resources other than the teacher +

☐ Using the context to work out the meaning of new grammar & vocabulary +

☐ Using conventions of citation to acknowledge sources of information in academic essays or briefs +

☐ Using the process of planning, writing & redrafting when writing extended texts +

☐ Using critical listening or reading skills to evaluate texts +

Please add other skills not included in the list.

17. Do you have any assessment tasks/tests you plan to use to measure the students' achievements, e.g. entry test, progress test, and/or achievement tests? If, yes please

provide more information.

PART III: INDIVIDUAL OPINION ON FIRST CERTIFICATE TEXTBOOK

Please complete OR tick () where appropriate.

18. Do you use the First Certificate in class?

Tick () where appropriate.

_ Yes

_ No +

(If your answer is No, please proceed to No. 28-30)

If, yes please provide more information on which textbook edition and why.

19. How long have you been using this textbook? (in weeks/months/semesters/years)

20. Is the use compulsory?

21. What is your honest opinion about the textbook?

22. How would you rate the book for the aim of the subject/course?

Tick () where appropriate.

_ Excellent

_ Good

_ Reasonable

_ Bad

_ Utterly inappropriate

_ Other (please detail)

23. Would you rather use a different textbook for the same aim? If yes, say why:

24. Have you ever talked to your students about the book? If yes, say what about and why:

25. What is the opinion of your students about the textbook? Be specific:

26. Have you ever made any relevant move towards changing, complementing or supplementing the textbook? If not why

27. If yes, was your attitude (in 26) welcomed or not by

Tick (✓) where appropriate.

☐ Head of section

☐ Head of Department

☐ Dean

☐ Rector

☐ Host Faculty (any entity)

☐ Students

☐ Curriculum Design Department

☐ Course Director(s)

☐ Other (please detail): _____

Please provide more information:

28. What is the textbook that you use if not the First Certificate?

_____ English for specific purpose related in the area of the students
study_____

29. Is the textbook officially sanctioned for use? If not, say why do you use it:

30. Would you recommend it as a substitute for the First Certificate or as the core textbook for the subject/course? If yes/no, provide details:

_____ I have no idea, because I have used
it _____

(Proceed to Part IV and respond but in relation to the textbook you use instead of the First Certificate. You may add any other reading strategies that are not in the table)

PART IV: READING STRATEGIES

Please mark with the letter X OR tick where appropriate. The numbers 1-3 tell us **HOW TRUE** the statement is. Provide details, i.e. Page number of textbook to support choice (for example, 5:23-25 or 5.p23; p57) OR other source. The numbers mean

1. = **never**.
2. = in some readings
3. = in all readings

Reading strategies taught in class, with use of the main core textbook, i.e. First Certificate or any other (provide title on other: _____)	CIRCLE A NUMBER			Evidence
1. Guess meanings of new words using context.	1	2	3 +	
2. Guess meanings of new words using clues from word root or affixation.	1	2+	3	
3. Assess the need to check the meaning in a dictionary or to ignore words that Ss don't know and continue reading.	1+	2	3	
4. Find words with similar meaning to replace [difficult] words to help with text understanding.	1	2	3+	
5. Identify key words/expressions used by the author to organize text.	1	2	3+	
6. Read difficult sentence (s) repeatedly to understand a topic and then continue reading the rest of the text.	1	2+	3	
7. Ignore difficult sentence (s) and continue reading.	1	2+	3	
8. Analyse the grammatical structure of a difficult sentence to understand the message.	1	2+	3	
9. Make note-cards or files after reading a text to remember/revise details about the text.	1	2	3+	

10. Take notes while reading.	1+	2	3
11. Highlight/underline important sentences/parts of the text while reading.	1	2+	3
12. Say the words out loud or pronounce silently in ss' minds while reading.	1	2+	3
13. Translate words into Portuguese while reading.	1+	2	3
14. Scan the text for purpose before reading for details.	1+	2	3
15. Use graphics like charts, figures, punctuation to help with text understanding	1+	2	3
16. Structure or organization of a text recognition			
17. Use a table, a chart or bullet to summarize the structure of the text.	1+	2	3
18. Use key words or topic sentences to make predictions.	1	2	3
19. Make up imaginary scenes or conjure scenarios with words while reading.	1	2+	3
20. Read sentence by sentence to understand a paragraph.	1	2+	3
21. Skim the text to get a general idea and scan for specific details while reading to comprehend a text.	1+	2	3
22. Use prior knowledge to understand new information.	1	2	3+
23. Set a goal/purpose before reading a text.	1	2+	3
24. Vary reading approach/style with each text and according to goal or purpose.	1	2+	3

Add here any strategies that are not part of the list above and rate them:

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ANNEX Da Q#2 QUESTIONNAIRE

The purpose of this questionnaire is to find out about your opinion on the use of the First Certificate Textbook in the provision of English language in the Degree course. The questionnaire is divided into four parts and you must fill in and answer all of them. The first part aims to get some basic bio data about you. The second part aims to get data on the subject or course taught, i.e. English. The third part aims to get an idea of what you think about the book in general and what sort of problems do you encounter when using it. Also this part seeks to find out your degree of appetite regarding use of the said textbook, both by you and your honest opinion on the students' reaction/feeling towards the textbook. The fourth part focuses on what reading skills you think the textbook helps you teach your students and whether this is effective or not. All data will be kept confidential and no names will be mentioned in the published materials. Thank you for your cooperation.

PART I: BIO DATA

Please select the item that is appropriate to you. Mark with **X** or tick where appropriate. DO NOT WRITE on shaded parts.

1. Age	18-20		20-25		25-35	X		Over 35	
2. Gender	Male	X	Female						
3. How long have you been teaching English?									
	5-6 years		7-9 years	X	10-15 years			over 15 years	
4. How long have you been teaching English at the Eduardo Mondlane University ?									
0-5 years	X	5-6 years		7-9 years		10-15 years		over 15 years	
5. Have you ever studied in a country where the official language was English?									

	Yes			No	X	
6.If Yes, specify:						
7. Nationality	Mozambican	X		Other:		
8. If Other, specify:						

PART II: DATA ON THE ENGLISH SUBJECT/COURSE AT UEM

Please mark with the letter X or tick where appropriate.

A. Overview of the subject/course: _____English for Specific Purpose_____

1) What is the purpose of the subject/course?

___Teach English for general communication and English to respond to area of training_____

2) Describe the students who attend/take this subject/course.

_____Students with little or without the expected English background for

3) What is the duration/length of the subject/course? (in weeks/months/semesters/years)

___2 years for the music course and 3 years for the journalism course_____

4) Is successful completion of this course a pre-requisite to get a degree?

If not, why?

_____ Yes, it is part of the curriculum and all students are expect to complete them. _____

5) When the students complete the required requisites of the subject/course who do you report their results to? Why?

_____ Mainly to the Escola de Comunicacaco e Artes and Communication (ECA), including the English Department at the Faculty of Social Sciences and Arts _____

B. Analysis of curriculum/Type of course

6) Describe the subject/course? You can tick (__) more than one option.

_ General English X

_ English for Specific Purposes (ESP) X

_ English for Academic Purposes (EAP)

_ Other. If other, specify _____

Please add any additional information about the course.

7) What is the entry level English requirement for this subject/course?

___ Grade 12

8) At what level is this subject/course taught?

☐ Beginner

☐ False Beginner

☐ Elementary

☐ Intermediate X

☐ Upper Intermediate X

☐ Advanced

Please add more specific information about the level, if none above is appropriate.

9) Which skills need to be covered in the subject/course?

☐ Listening

☐ Speaking X

☐ Reading X

☐ Writing X

a) What percentage of the time on the subject/course is spent on developing students' listening skills? 30 (%)

Please add more specific information about the teaching of this skill.

 It is up to the teacher to allocate the time accordingly

b) What percentage of the subject/course is spent on developing students' speaking skills? 40 (%)

Please add more specific information about the teaching of this skill.

c) What percentage of the subject/course is spent on developing students' reading skills?

30 (%)

Please add more specific information about the teaching of this skill.

d) What percentage of the subject/course is spent on developing students' writing skills?

_____ (%)

Please add more specific information about the teaching of this skill.

10) What content material do you usually use with this subject/course?

Tick () more than one option if applicable.

_ Commercially-produced generalist text X

_ Commercially-produced English for Specific Purposes (ESP) text

_ Commercially-produced English for Academic Purposes (EAP) text

_ Generalist authentic texts, e.g. newspapers, journals, DVDs, on-line materials X

_ Specialist authentic texts, e.g. technical manuals, university lecture notes, textbooks X

Please record the names of commercially-produced material, and add more specific information about any specialist or authentic texts

__MURPHY, R

11. Is the use of the above content material(s) compulsory?

 NO

If yes, who makes the decision on which content material(s) or book(s) to be used?

C. Language requirements of students

12. What speaking skills do students require on exit from the course?

Tick () more than one option if applicable.

- ☐ No speaking requirement (ESP course)
 - ☐ Interacting in everyday social & routine workplace situations
 - ☐ Participating in small discussion groups related to work or study
 - ☐ Delivering briefs/presentations to a specialist audience
 - ☐ Responding to questions in an area related to technical/academic expertise
 - ☐ Communicating ideas in both a formal & informal register depending on audience
 - ☐ Using subject-specialist vocabulary to communicate ideas
 - ☐ Using idiom & colloquial expressions to communicate ideas
 - ☐ Communicating ideas with fluency
 - ☐ Other (please detail)
-
-

Please give specific examples of how students will use their speaking skills:

13. What listening skills do students require on exit from this course?

Tick () more than one option if applicable.

- ☐ No listening requirement (ESP course)
- ☐ Comprehending conversations on every day social & routine job-related themes
- ☐ Listening to extended lectures/briefs and summarising main ideas in note form
- ☐ Listening to extended lectures/briefs & paraphrasing main ideas & supporting details
- ☐ Comprehending technical/academic vocabulary in professional settings
- ☐ Comprehending speech delivered with native-speaker fluency
- ☐ Other (please detail)

Please give specific examples of how students will use their listening skills

14. What reading skills do students require on exit from the course?

Tick () more than one option if applicable.

- ☐ No reading requirement (ESP course)
- ☐ Reading a range of general authentic texts on every day social and routine job related themes, e.g. newspapers, briefs

- ☐ Interpreting data in tables & diagrams
- ☐ Reading extended technical & academic texts to identify main ideas & supporting details
- ☐ Understanding a wide range of technical/academic vocabulary in professional settings
- ☐ Reading a range of texts related to specialist area of expertise to understand the author's point of view or purpose
- ☐ Other (please detail)

Please give specific examples of how students will use their reading skills:

15. What writing skills do students require on exit from the course?

Tick (☐) more than one option if applicable.

- ☐ No writing requirement (ESP course)
- ☐ Writing formal & informal correspondence & documents on practical, social & professional topics.
- ☐ Writing essay length papers on areas of technical or academic expertise
- ☐ Summarising & paraphrasing to present information in paragraphs or an essay
- ☐ Using linear organisation of ideas to present ideas in a logical manner
- ☐ Using a wide range of technical/academic vocabulary in writing
- ☐ Other (please detail)

Please give specific examples of how students will use their writing skills:

D. Independent learning skills

16. Tick (✓) which independent learning skills the students will require during the provision of the subject/ course

- ☐ Using pair work & group work, e.g. jigsaw reading or listening tasks
- ☐ Experimenting with new language, e.g. guided writing or role-plays
- ☐ Using different reading strategies for different tasks, e.g. reading newspapers or specialist journal articles
- ☐ The ability to self-assess own language learning
- ☐ Working out answers using resources other than the teacher
- ☐ Using the context to work out the meaning of new grammar & vocabulary
- ☐ Using conventions of citation to acknowledge sources of information in academic essays or briefs
- ☐ Using the process of planning, writing & redrafting when writing extended texts
- ☐ Using critical listening or reading skills to evaluate texts

Please add other skills not included in the list.

17. Do you have any assessment tasks/tests you plan to use to measure the students' achievements, e.g. entry test, progress test, and/or achievement tests? If, yes please

provide more information.

PART III: INDIVIDUAL OPINION ON FIRST CERTIFICATE TEXTBOOK

Please complete OR tick (✓) where appropriate.

18. Do you use the First Certificate in class?

Tick (✓) where appropriate.

☐ Yes

☐ No

(If your answer is No, please proceed to No. 28-30)

If, yes please provide more information on which textbook edition and why.

19. How long have you been using this textbook? (in weeks/months/semesters/years)

20. Is the use compulsory?

21. What is your honest opinion about the textbook?

22. How would you rate the book for the aim of the subject/course?

Tick () where appropriate.

☐ Excellent

☐ Good

☐ Reasonable

☐ Bad

☐ Utterly inappropriate

☐ Other (please detail)

23. Would you rather use a different textbook for the same aim? If yes, say why:

24. Have you ever talked to your students about the book? If yes, say what about and why:

25. What is the opinion of your students about the textbook? Be specific:

26. Have you ever made any relevant move towards changing, complementing or supplementing the textbook? If not why

27. If yes, was your attitude (in 26) welcomed or not by

Tick () where appropriate.

☐ Head of section

☐ Head of Department

☐ Dean

☐ Rector

☐ Host Faculty (any entity)

☐ Students

☐ Curriculum Design Department

☐ Course Director(s)

☐ Other (please detail): _____

Please provide more information:

28. What is the textbook that you use if not the First Certificate?

29. Is the textbook officially sanctioned for use? If not, say why do you use it:

30. Would you recommend it as a substitute for the First Certificate or as the core textbook for the subject/course? If yes/no, provide details:

(Proceed to Part IV and respond but in relation to the textbook you use instead of the First Certificate. You may add any other reading strategies that are not in the table)

PART IV: READING STRATEGIES

Please mark with the letter X OR tick where appropriate. The numbers 1-3 tell us **HOW TRUE** the statement is. Provide details, i.e. Page number of textbook to support choice (for example, 5:23-25 or 5.p23; p57) OR other source. The numbers mean

1. = **never**.
2. = in some readings

3. = in all readings

Reading strategies taught in class, with use of the main core textbook, i.e. First Certificate or any other (provide title on other: _____)	CIRCLE A NUMBER			Evidence
1. Guess meanings of new words using context.	1	2	3	
2. Guess meanings of new words using clues from word root or affixation.	1	2	3	
3. Assess the need to check the meaning in a dictionary or to ignore words that Ss don't know and continue reading.	1	2	3	
4. Find words with similar meaning to replace [difficult] words to help with text understanding.	1	2	3	
5. Identify key words/expressions used by the author to organize text.	1	2	3	
6. Read difficult sentence (s) repeatedly to understand a topic and then continue reading the rest of the text.	1	2	3	
7. Ignore difficult sentence (s) and continue reading.	1	2	3	
8. Analyse the grammatical structure of a difficult sentence to understand the message.	1	2	3	
9. Make note-cards or files after reading a text to remember/revise details about the text.	1	2	3	
10. Take notes while reading.	1	2	3	
11. Highlight/underline important sentences/parts of the text while reading.	1	2	3	
12. Say the words out loud or pronounce silently in ss' minds while reading.	1	2	3	
13. Translate words into Portuguese while reading.	1	2	3	
14. Scan the text for purpose before reading for details.	1	2	3	
15. Use graphics like charts, figures, punctuation to help with text understanding	1	2	3	
16. Structure or organization of a text recognition				
17. Use a table, a chart or bullet to summarize the structure of the text.	1	2	3	

18. Use key words or topic sentences to make predictions.	1	2	3	
19. Make up imaginary scenes or conjure scenarios with words while reading.	1	2	3	
20. Read sentence by sentence to understand a paragraph.	1	2	3	
21. Skim the text to get a general idea and scan for specific details while reading to comprehend a text.	1	2	3	
22. Use prior knowledge to understand new information.	1	2	3	
23. Set a goal/purpose before reading a text.	1	2	3	
24. Vary reading approach/style with each text and according to goal or purpose.	1	2	3	

Add here any strategies that are not part of the list above and rate them:

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ANNEX Db Q#3 QUESTIONNAIRE

The purpose of this questionnaire is to find out about your opinion on the use of the First Certificate Textbook in the provision of English language in the Degree course. The questionnaire is divided into four parts and you must fill in and answer all of them. The first part aims to get some basic bio data about you. The second part aims to get data on the subject or course taught, i.e. English. The third part aims to get an idea of what you think about the book in general and what sort of problems do you encounter when using it. Also this part seeks to find out your degree of appetite regarding use of the said textbook, both by you and your honest opinion on the students' reaction/feeling towards the textbook. The fourth part focuses on what reading skills you think the textbook helps you teach your students and whether this is effective or not. All data will be kept confidential and no names will be mentioned in the published materials. Thank you for your cooperation.

PART I: BIO DATA

Please select the item that is appropriate to you. Mark with **X** or tick where appropriate. DO NOT WRITE on shaded parts.

1. Age	18-20		20-25		25-35		Over 35 X	
2. Gender	Male	X	Female					
3. How long have you been teaching English?								
	5-6 years		7-9 years		10-15 years		over 15 years	X
4. How long have you been teaching English at the Eduardo Mondlane University ?								
0-5 years	X	5-6 years		7-9 years		10-15 years		over 15 years
5. Have you ever studied in a country where the official language was English?								

	Yes	X	No		
6.If Yes, specify: 3 week TESOL course at University of Zimbabwe					
7. Nationality	Mozambican	X	Other:		
8. If Other, specify:					

PART II: DATA ON THE ENGLISH SUBJECT/COURSE AT UEM

Please mark with the letter X or tick where appropriate.

A. Overview of the subject/course: Quite general English and ESP at Chemistry Department; and Translation-related subjects;
Study Skills

1) What is the purpose of the subject/course?

1. ESP was designed to enable students to read and research in English as well as develop basic writing skills.
2. Translation-related subjects are designed to train translators.
3. Equip new university students to succeed in their academic life.

2) Describe the students who attend/take this subject/course.

1. Year 1 and Year 2 students attend English 1 – 4 in Chemistry
2. Year 1 and Year 4 students: learning translation theory/methodology and then practising translation and interpretation.
3. Year 1 students (ELT & Translation courses)

3) What is the duration/length of the subject/course? (in weeks/months/semesters/years)

1. Semester (32 hours)
2. Semester (64 hours)
3. (Semester (64 hours)

4) Is successful completion of this course a pre-requisite to get a degree?

If not, why?

Yes. No student can graduate without completing the courses above in their respective field of study.

5) When the students complete the required requisites of the subject/course who do you report their results to? Why?

Respective department, through publication of results. It is a pedagogical requirement.

B. Analysis of curriculum/Type of course

6) Describe the subject/course? You can tick () more than one option.

☐ General English

☐ English for Specific Purposes (ESP) X

☐ English for Academic Purposes (EAP)

☐ Other. If other, specify _____

Please add any additional information about the course.

7) What is the entry level English requirement for this subject/course?

All students must basically pass a general entry exam.

8) At what level is this subject/course taught?

☐ Beginner (ESP – Chemistry)

☐ False Beginner (ESP – Chemistry)

☐ Elementary

☐ Intermediate (Translation & ELT)

☐ Upper Intermediate

☐ Advanced

Please add more specific information about the level, if none above is appropriate.

We often find there are unlevelled skills among students.

9) Which skills need to be covered in the subject/course?

☐ Listening

☒ Speaking X

☐ Reading X

☐ Writing X

a) What percentage of the time on the subject/course is spent on developing students' listening skills? ____0__ (%)

Please add more specific information about the teaching of this skill.

Ever since no listening skills as such have been taught since there simply is no equipment.

b) What percentage of the subject/course is spent on developing students' speaking skills? Roughly 50%

Please add more specific information about the teaching of this skill.

There's quite a significant amount of discussion to improve speaking, but I sense there are no specific objectives

c) What percentage of the subject/course is spent on developing students' reading skills?

25 (%)

Please add more specific information about the teaching of this skill.

Reading is incidentally developed by "reading" all handouts to guide students in the course, but in my subjects I haven't had specific reading objectives outlined by UEM.

For Chemistry about 50% of time goes to reading area specific materials.

d) What percentage of the subject/course is spent on developing students' writing skills?

40 – 50 % in Study skills.

Minimal in ESP (Chemistry)

Please add more specific information about the teaching of this skill.

In study skills writing is taken seriously. We teach students academic writing and give them an opportunity to try.

10) What content material do you usually use with this subject/course?

Tick () more than one option if applicable.

☐ Commercially-produced generalist text X

☐ Commercially-produced English for Specific Purposes (ESP) text X

☐ Commercially-produced English for Academic Purposes (EAP) text X

☐ Generalist authentic texts, e.g. newspapers, journals, DVDs, on-line materials

☐ Specialist authentic texts, e.g. technical manuals, university lecture notes, textbooks

Please record the names of commercially-produced material, and add more specific information about any specialist or authentic texts

11. Is the use of the above content material(s) compulsory?

No. One finds that he needs to have source to teach with.

If yes, who makes the decision on which content material(s) or book(s) to be used?

C. Language requirements of students

12. What speaking skills do students require on exit from the course?

Tick () more than one option if applicable.

- ☐ No speaking requirement (ESP course)
 - ☐ Interacting in everyday social & routine workplace situations
 - ☐ Participating in small discussion groups related to work or study X
 - ☐ Delivering briefs/presentations to a specialist audience X
 - ☐ Responding to questions in an area related to technical/academic expertise X
 - ☐ Communicating ideas in both a formal & informal register depending on audience
 - ☐ Using subject-specialist vocabulary to communicate ideas
 - ☐ Using idiom & colloquial expressions to communicate ideas
 - ☐ Communicating ideas with fluency X
 - ☐ Other (please detail)
-
-

Please give specific examples of how students will use their speaking skills:

In the interpreting course students will need to be fluent to perform on the market.

13. What listening skills do students require on exit from this course?

Tick () more than one option if applicable.

- ☐ No listening requirement (ESP course)
- ☐ Comprehending conversations on every day social & routine job-related themes
- ☐ Listening to extended lectures/briefs and summarising main ideas in note form
- ☐ Listening to extended lectures/briefs & paraphrasing main ideas & supporting X

details

☐ Comprehending technical/academic vocabulary in professional settings X

☐ Comprehending speech delivered with native-speaker fluency X

☐ Other (please detail)

Please give specific examples of how students will use their listening skills

Extremely important for interpreting students to do well in their job.

14. What reading skills do students require on exit from the course?

Tick (☐) more than one option if applicable.

☐ No reading requirement (ESP course)

☐ Reading a range of general authentic texts on every day social and routine job related themes, e.g. newspapers, briefs

☐ Interpreting data in tables & diagrams

☐ Reading extended technical & academic texts to identify main ideas & supporting

Details X (Chemistry)

☐ Understanding a wide range of technical/academic vocabulary in professional settings

☐ Reading a range of texts related to specialist area of expertise to understand the author's point of view or purpose X

☐ Other (please detail)

Please give specific examples of how students will use their reading skills:

For Chemistry graduates it might help when needing post-graduation.

For translators, it will enable them to translate accurately.

15. What writing skills do students require on exit from the course?

Tick () more than one option if applicable.

☐ No writing requirement (ESP course)

☐ Writing formal & informal correspondence & documents on practical, social & professional topics.

☐ Writing essay length papers on areas of technical or academic expertise X

☐ Summarising & paraphrasing to present information in paragraphs or an essay X

☐ Using linear organisation of ideas to present ideas in a logical manner X

☐ Using a wide range of technical/academic vocabulary in writing X

☐ Other (please detail)

Please give specific examples of how students will use their writing skills:

Essentially useful for translators as will enable them to be able to translate into English in an acceptable way.

D. Independent learning skills

16. Tick () which independent learning skills the students will require during the provision of the subject/ course

☐ Using pair work & group work, e.g. jigsaw reading or listening tasks X

☐ Experimenting with new language, e.g. guided writing or role-plays

☐ Using different reading strategies for different tasks, e.g. reading newspapers or specialist journal articles X

- ☐ The ability to self-assess own language learning X
- ☐ Working out answers using resources other than the teacher X
- ☐ Using the context to work out the meaning of new grammar & vocabulary X
- ☐ Using conventions of citation to acknowledge sources of information in academic essays or briefs X
- ☐ Using the process of planning, writing & redrafting when writing extended texts X
- ☐ Using critical listening or reading skills to evaluate texts X

Please add other skills not included in the list.

17. Do you have any assessment tasks/tests you plan to use to measure the students' achievements, e.g. entry test, progress test, and/or achievement tests? If, yes please

provide more information.

Yes. After learning and practising specific features of Study Skills students get an assignment, e.g. paragraph/essay writing etc.

PART III: INDIVIDUAL OPINION ON FIRST CERTIFICATE TEXTBOOK

Please complete OR tick (✓) where appropriate.

18. Do you use the First Certificate in class?

Tick (✓) where appropriate.

☐ Yes

☐ No

(If your answer is No, please proceed to No. 28-30)

If, yes please provide more information on which textbook edition and why.

19. How long have you been using this textbook? (in weeks/months/semesters/years)

20. Is the use compulsory?

21. What is your honest opinion about the textbook?

22. How would you rate the book for the aim of the subject/course?

Tick () where appropriate.

☐ Excellent

☐ Good

☐ Reasonable

☐ Bad

☐ Utterly inappropriate

☐ Other (please detail)

23. Would you rather use a different textbook for the same aim? If yes, say why:

24. Have you ever talked to your students about the book? If yes, say what about and why:

25. What is the opinion of your students about the textbook? Be specific:

26. Have you ever made any relevant move towards changing, complementing or supplementing the textbook? If not why

27. If yes, was your attitude (in 26) welcomed or not by

Tick (✓) where appropriate.

☐ Head of section

☐ Head of Department

☐ Dean

☐ Rector

☐ Host Faculty (any entity)

☐ Students

☐ Curriculum Design Department

☐ Course Director(s)

☐ Other (please detail): _____

Please provide more information:

28. What is the textbook that you use if not the First Certificate?

29. Is the textbook officially sanctioned for use? If not, say why do you use it:

30. Would you recommend it as a substitute for the First Certificate or as the core textbook for the subject/course? If yes/no, provide details:

(Proceed to Part IV and respond but in relation to the textbook you use instead of the First Certificate. You may add any other reading strategies that are not in the table)

PLEASE NOTE THAT I HAVE NO COMMENTS WHATSOEVER ON FCE BECAUSE I HAVE NEVER TAUGHT THROUGH IT. HOWEVER, I MUST SAY, USING ONE BOOK ONLY WILL BE EFFECTIVE IF ALL INTEGRATED SKILLS IN IT ARE TAUGHT PROPERLY. THAT IS NOT HAPPENING AT THE MOMENT, E.G. THERE IS NO SUITABLE LISTENING EQUIPMENT. WE ALSO NEED VIDEO/DVD MATERIALS! WE NEED TO MODERNISE. I ALSO THINK WE NEED TO PUT MORE EMPHASIS ON (ACCURATE) SPEAKING AND WRITING BECAUSE THE QUALITY OF TRANSLATIONS AND INTERPRETING WE HAVE IN OUR STUDENTS IS STILL POOR. CLEARLY BY THE TIME THEY ABOUT TO GRADUATE THEY HAVEN'T MASTERED ENGLISH. THUS A GOOD CROSS-CUTTING GRAMMAR COMPONENT IS NECESSARY. WE SHOULD SEEK WAYS OF TEACHING ENGLISH IN LESS "ACADEMIC" WAY. I MEAN, IT IS PERHAPS NOT AS EFFECTIVE TO TEACH MORPHOLOGY OR SYNTAX (FROM A LINGUISTICS POINT OF VIEW) AS WOULD BE TO SIMPLY TEACH THEM MORE CORRECT GRAMMAR AND GIVE THEM ENOUGH OPPORTUNITY TO DEMONSTRATE THAT. I KNOW MANY STUDENTS WHO CRY AND THANK GOD WHEN THEY "SURVIVE", BUT CLEARLY HAVEN'T LEARNT ENOUGH.

PART IV: READING STRATEGIES

Please mark with the letter X OR tick where appropriate. The numbers 1-3 tell us **HOW TRUE** the statement is. Provide details, i.e. Page number of textbook to support choice (for example, 5:23-25 or 5.p23; p57) OR other source. The numbers mean

- 1. = **never**.
- 2. = in some readings
- 3. = in all readings

Reading strategies taught in class, with use of the main core textbook, i.e. First Certificate or any other (provide title on other: _____)	CIRCLE A NUMBER			Evidence
1. Guess meanings of new words using context.	1	2	3	
2. Guess meanings of new words using clues from word root or affixation.	1	2	3	
3. Assess the need to check the meaning in a dictionary or to ignore words that Ss don't know and continue reading.	1	2	3	
4. Find words with similar meaning to replace [difficult] words to help with text understanding.	1	2	3	
5. Identify key words/expressions used by the author to organize text.	1	2	3	
6. Read difficult sentence (s) repeatedly to understand a topic and then continue reading the rest of the text.	1	2	3	
7. Ignore difficult sentence (s) and continue reading.	1	2	3	
8. Analyse the grammatical structure of a difficult sentence to understand the message.	1	2	3	
9. Make note-cards or files after reading a text to remember/revise details about the text.	1	2	3	
10. Take notes while reading.	1	2	3	
11. Highlight/underline important sentences/parts of the text while reading.	1	2	3	
12. Say the words out loud or pronounce silently in ss' minds while reading.	1	2	3	
13. Translate words into Portuguese while reading.	1	2	3	

14. Scan the text for purpose before reading for details.	1	2	3	
15. Use graphics like charts, figures, punctuation to help with text understanding	1	2	3	
16. Structure or organization of a text recognition				
17. Use a table, a chart or bullet to summarize the structure of the text.	1	2	3	
18. Use key words or topic sentences to make predictions.	1	2	3	
19. Make up imaginary scenes or conjure scenarios with words while reading.	1	2	3	
20. Read sentence by sentence to understand a paragraph.	1	2	3	
21. Skim the text to get a general idea and scan for specific details while reading to comprehend a text.	1	2	3	
22. Use prior knowledge to understand new information.	1	2	3	
23. Set a goal/purpose before reading a text.	1	2	3	
24. Vary reading approach/style with each text and according to goal or purpose.	1	2	3	

Add here any strategies that are not part of the list above and rate them:

© 2010 Manuel Cabinda (Partly adapted from materials developed by Sandra Bouwmans, Head of Materials Development Section, Defence International Training Centre, Australia - sandra.bouwmans@defence.gov.au; Available at <http://maf.mod.gov.my/pendidikan/borang/borang/needs.pdf>)

ANNEX E COMPARED RESULTS FROM QUESTIONNAIRES

PART II: DATA ON THE ENGLISH SUBJECT/COURSE AT UEM				
Questions	Respondent 1 (RQ#1)	Respondent 2 (RQ#2)	Respondent 3 (RQ#3)	OBS
A. Overview of the subject/course:				
1) What is the purpose of the subject/course?	for a degree course	Teach English for general communication and English to respond to area of training	<p>was designed to enable students to read and research in English as well as develop basic writing skills.</p> <p>2. Translation-related subjects are designed to train translators.</p> <p>3. Equip new university students to succeed in their academic life.</p>	
2) Describe the students who attend/take this subject/course.	Myself, I have never worked with this group of the students, but I believe that at the beginning of the course, the students bring different levels of command of the language which is upgraded as the course goes on.	Students with little or without the expected English background for	<p>1. Year 1 and Year 2 students attend English 1 – 4 in Chemistry</p> <p>2. Year 1 and Year 4 students: learning translation theory/methodology and then practising translation and interpretation.</p> <p>3. Year 1 students (ELT & Translation courses)</p>	
3) What is the duration/length of the subject/course? (in weeks/months/semesters/years)	Four years I suppose	2 years for the music course and 3 years for the journalism course	<p>1. Semester (32 hours)</p> <p>2. Semester (64 hours)</p> <p>3. (Semester (64 hours)</p>	

4) Is successful completion of this course a pre-requisite to get a degree? If not, why?	I think so. Depending on how the contents are delivered, I mean the methodology used	Yes, it is part of the curriculum and all students are expected to complete them	Yes. No student can graduate without completing the courses above in their respective field of study.	
5) When the students complete the required requisites of the subject/course who do you report their results to? Why?	The coordinator of the course, Because he works in accordance with the department of the language	the Escola de Comunicacaco e Artes and Communication (ECA), including the English Department at the Faculty of Social Sciences and Arts	Respective department, through publication of results. It is a pedagogical requirement.	
B. Analysis of curriculum/Type of course				
6) Describe the subject/course? You can tick () more than one option.	General English _ English for Academic Purposes (EAP)	General English _ English for Specific Purposes (ESP)	General English_ English for Specific Purposes (ESP) _	
Other. If other, specify				
Please add any additional information about the course.				
7) What is the entry level English requirement for this subject/course?	The student must have completed the secondary level	Grade 12	All students must basically pass a general entry exam	
8) At what level is this subject/course taught?	Intermediate Upper Intermediate Advanced	Intermediate Upper Intermediate	Beginner False Beginner	

			Intermediate Upper Intermediate	
Please add more specific information about the level, if none above is appropriate.			We often find there are unlevelled skills among students.	
9) Which skills need to be covered in the subject/course?	_ Listening _ Speaking _ Reading _ Writing	_ Speaking _ Reading _ Writing	_ Speaking _ Reading _ Writing	
a) What percentage of the time on the subject/course is spent on developing students' listening skills?	20%	0%	0%	
Please add more specific information about the teaching of the skill.	There should days concentrated on that	--	Ever since no listening skills as such have been taught since there simply is no equipment. Skill	
b) What percentage of the subject/course is spent on developing students' speaking skills?	20%	30%	~ 50%	
Please add more specific information about the teaching of this skill.	there should allocated hour for this very skill	It is up to the teacher to allocate the time accordingly	There's quite a significant amount of discussion to improve speaking, but I sense there are no specific objectives	
c) What percentage of the subject/course is spent on developing students' reading skills?	30%	40%	25%	

Please add more specific information about the teaching of this skill.	Student need much time for this skill		Reading is incidentally developed by “reading” all handouts to guide students in the course, but in my subjects I haven’t had specific reading objectives outlined by UEM. For Chemistry about 50% of time goes to reading area specific materials.	
d) What percentage of the subject/course is spent on developing students’ writing skills?	30%	30%	40-50% in Study skills; Minimal in ESP (Chemistry) (%)	
Please add more specific information about the teaching of this skill	They also need much time for this skill		In Study Skills writing is taken seriously. We teach students academic writing and give them an opportunity to try.	
10) What content material do you usually use with this subject/course? Tick (✓) more than one option if applicable.	Commercially-produced generalist text; Commercially-produced English for Specific Purposes (ESP) text ; Commercially-produced English for Academic Purposes (EAP) text; Specialist authentic texts, e.g. technical manuals, university lecture notes, textbooks	Commercially-produced generalist text; Specialist authentic texts, e.g. technical manuals, university lecture notes, textbooks	Commercially-produced generalist text; Commercially-produced English for Specific Purposes (ESP) text ; Commercially-produced English for Academic Purposes (EAP) text; Generalist authentic texts, e.g. newspapers, journals, DVDs, on-line materials; Specialist authentic texts, e.g. technical manuals, university lecture notes, textbooks;	
Please record the names of commercially-produced material, and add more specific	MURPHY R			

information about any specialist or authentic texts				
11. Is the use of the above content material(s) compulsory?	Not that I know	NO	No. One finds that he needs to have source to teach with.	
If yes, who makes the decision on which content material(s) or book(s) to be used?				
C. Language requirements of students				
12. What speaking skills do students require on exit from the course? Tick () more than one option if applicable	<p>No speaking requirement (ESP course);</p> <p>Interacting in everyday social & routine workplace situations;</p> <p>Participating in small discussion groups related to work or study;</p> <p>Delivering briefs/presentations to a specialist audience;</p> <p>Responding to questions in an area related to technical/academic expertise; Communicating ideas in both a formal & informal register depending on audience;</p> <p>Using subject-specialist vocabulary to communicate</p>		<p>Participating in small discussion groups related to work or study;</p> <p>Delivering briefs/presentations to a specialist audience;</p> <p>Communicating ideas with fluency ;</p> <p>_ Other (please detail)</p>	

	<p>ideas;</p> <p>Using idiom & colloquial expressions to communicate ideas;</p> <p>Communicating ideas with fluency;</p> <p>Other (please detail)</p>			
Please give specific examples of how students will use their speaking skills:			In the interpreting course students will need to be fluent to perform on the market.	
<p>13. What listening skills do students require on exit from this course?</p> <p>Tick (✓) more than one option if applicable.</p>	<p>Comprehending conversations on every day social & routine job-related themes;</p> <p>Listening to extended lectures/briefs and summarising main ideas in note form ;</p> <p>Listening to extended lectures/briefs & paraphrasing main ideas & supporting details;</p> <p>Comprehending technical/academic vocabulary in professional settings;</p> <p>Comprehending speech delivered with native-speaker fluency;</p> <p>Other (please detail)</p>		<p>Listening to extended lectures/briefs & paraphrasing main ideas & supporting details;</p> <p>Comprehending technical/academic vocabulary in professional settings;</p> <p>Comprehending speech delivered with native-speaker fluency;</p> <p>Other (please detail)</p>	

Please give specific examples of how students will use their listening skills			Extremely important for interpreting students to do well in their job	
<p>14. What reading skills do students require on exit from the course?</p> <p>Tick (✓) more than one option if applicable.</p>	<p>Reading a range of general authentic texts on every day social and routine job related themes, e.g. newspapers, briefs;</p> <p>Interpreting data in tables & diagrams;</p> <p>Reading extended technical & academic texts to identify main ideas & supporting details;</p> <p>Understanding a wide range of technical/academic vocabulary in professional settings;</p> <p>Reading a range of texts related to specialist area of expertise to understand the author's point of view or purpose;</p> <p>Other (please detail)</p>		<p>Reading extended technical & academic texts to identify main ideas & supporting details; Chemistry)</p> <p>Reading a range of texts related to specialist area of expertise to understand the author's point of view or purpose;</p> <p>Other (please detail)</p>	
Please give specific examples of how students will use their reading skills:			<p>For Chemistry graduates it might help when needing post-graduation.</p> <p>For translators, it will enable them to translate accurately.</p>	

<p>15. What writing skills do students require on exit from the course?</p> <p>Tick () more than one option if applicable.</p>	<p>Writing formal & informal correspondence & documents on practical, social & professional topics;</p> <p>Writing essay length papers on areas of technical or academic expertise;</p> <p>Summarising & paraphrasing to present information in paragraphs or an essay;</p> <p>Using linear organisation of ideas to present ideas in a logical manner;</p> <p>Using a wide range of technical/academic vocabulary in writing;</p> <p>Other (please detail)</p>		<p>Writing essay length papers on areas of technical or academic expertise ;</p> <p>Summarising & paraphrasing to present information in paragraphs or an essay;</p> <p>Using linear organisation of ideas to present ideas in a logical manner;</p> <p>Using a wide range of technical/academic vocabulary in writing;</p> <p>Other (please detail)</p>	
<p>Please give specific examples of how students will use their writing skills:</p>			<p>Essentially useful for translators as will enable them to able to translate into English in an acceptable way.</p>	
D. Independent learning skills				
<p>16. Tick () which independent learning skills the students will require during the provision of the subject/ course</p>	<p>Using pair work & group work, e.g. jigsaw reading or listening tasks;</p> <p>Experimenting with new language, e.g. guided</p>		<p>Using pair work & group work, e.g. jigsaw reading or listening tasks;</p> <p>Using different reading strategies for different tasks,</p>	

	<p>writing or role-plays;</p> <p>Using different reading strategies for different tasks, e.g. reading newspapers or specialist journal articles;</p> <p>The ability to self-assess own language learning;</p> <p>Working out answers using resources other than the teacher;</p> <p>Using the context to work out the meaning of new grammar & vocabulary;</p> <p>Using conventions of citation to acknowledge sources of information in academic essays or briefs;</p> <p>Using the process of planning, writing & redrafting when writing extended texts;</p> <p>Using critical listening or reading skills to evaluate texts;</p>		<p>e.g. reading newspapers or specialist journal articles;</p> <p>The ability to self-assess own language learning;</p> <p>Working out answers using resources other than the teacher;</p> <p>Using the context to work out the meaning of new grammar & vocabulary;</p> <p>Using conventions of citation to acknowledge sources of information in academic essays or briefs;</p> <p>Using the process of planning, writing & redrafting when writing extended texts;</p> <p>Using critical listening or reading skills to evaluate texts;</p>	
Please add other skills not included in the list.				
17. Do you have any assessment tasks/tests you plan to use to measure the students' achievements, e.g. entry test,			Yes. After learning and practising specific features of Study Skills students get an assignment, e.g.	

progress test, and/or achievement tests? If, yes please provide more information			paragraph/essay writing etc	
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ANNEX F PILOT TEST (READING COMPREHENSION TEST)

VERSION 2

The purpose of this test is to find out about your degree of text comprehension when you read texts in your English classes at the university. The test is divided into two main parts and you must fill in and answer all of them. The first part aims to get some basic bio data about you. The second part contains the questions and activities you must answer and do. The information provided by you and the results from this comprehension text are very important and will help us find answers to problems in the EAP field. All data will be kept confidentially and no names will be mentioned in the published texts. **THE RESULTS FROM THIS TEST WILL NOT INFLUENCE YOUR FINAL GRADES.** Thank you for your cooperation.

SAMPLE CODE: _____

PART I: BIO DATA

Please select the item that is appropriate to you. Mark with **X** where appropriate. DO NOT WRITE on shaded parts.

1. Age	16-20	<input type="checkbox"/>	20-25	<input type="checkbox"/>	25-35	<input type="checkbox"/>	Over 35	<input type="checkbox"/>
2. Gender	Male	<input type="checkbox"/>	Female	<input type="checkbox"/>				
3. How long have you been studying English in school?								
	5-6 years	<input type="checkbox"/>	7-9 years	<input type="checkbox"/>	10-15 years	<input type="checkbox"/>	over 15 years	<input type="checkbox"/>
4. Have you ever studied in a country where the official language was English?								
	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>				

5.If Yes, specify:				
6. Nationality	Mozambican		Other:	
7. If Other, specify:				

PART II: COMPREHENSION TEST

READ THE TEXT VERY CAREFULLY AND ANSWER THE QUESTIONS THAT FOLLOW:

Summary of the Concepts and Laws of Classical Physics Applicable to the Atomic Domain

The concepts and laws that were evolved in the classical period necessarily form the groundwork for the specification of the atoms, their properties, and their components in terms of which our subsequent description will be presented.

The first requisite of physics was a system for specifying the positions of objects and the events in which they participate, in the most precise and convenient way, in terms of the variables of space and time.

The fact that all observers agree that a particular velocity in our Universe, namely the velocity of light, is the same introduces a relationship between spatial and temporal variables that places an upper limit on observable velocities.

The second concept was that of mass as a property of matter. With this idea in mind, it was possible to define the concepts of momentum and angular momentum and to relate them to our kinaesthetic experience of force and torque through the definitions proposed by Newton: namely, that force is evidenced by and in suitable units equal to the rate at which momentum changes, and torque is equal to the rate at which angular momentum changes. The very useful concept of energy was also introduced, which is related to our immediate experience of work; and from this was derived the idea of power, which is defined as the rate at which work is done.

With these concepts well defined in terms of general theory of gravitation, a property of mass was seen to be that it exerts a force of attraction on other masses in accordance with the universal law of gravitation. On the basis of this law and the associated computation of the gravitational potential energy between massive bodies of certain symmetrical shapes, the motion of planets and satellites can be accounted for. Attempts to develop a more general theory of relativity upon the basis of the equivalence of gravitational fields and accelerations, and a representation of these in terms of the intrinsic properties of space, give promise of furnishing a more generalised description of the Universe and unifying the phenomena of mechanics and gravitation for observers moving arbitrarily in relation to one another.

The concept of electrification and electric charges was then introduced and reduced to quantitative terms by the experiments of Cavendish and Coulomb. The basic law of the conservation of charge assumed a comparable status with the mechanical conservation laws. The law of force between charges was seen to be a closely analogous form to the law of gravitational attraction between masses.

Finally, it was seen that magnetic properties of matter brought to light by observing the behaviour of magnetic materials in the presence of Amperean currents bear a close relationship to an intrinsic angular momentum associated with matter. (468 words)

(G. P. Harnwell and G. P. F. Legge, *Physics: Matter, Energy and the Universe*, Reinhold Publishing Co., 1967. In Soto, M S (1985). *PHYSICS – Developing Reading Skills in English*. Pergamon Press Ltd.)

I. Circle the statement that best represents the main point of the text above:

- (a) Once these concepts are well defined in terms of specific manipulations or procedures, experiment leads to the conclusion that there are mechanical laws with which nature conforms.
- (b) The concepts and laws that were developed in the classical era form without doubt the groundwork for the specifications of atoms, including their properties and components.
- (c) In the end, it was understood that the magnetic properties of matter brought to light by observing the behaviour of magnetic materials have a close relationship to an intrinsic angular momentum associated with matter.

II. Answer the questions with information from the text.

1. Which two specific manners are mentioned in paragraph 2 that concern how positions of objects and events should be specified?

_____ and _____ .

2. What is the particular velocity mentioned by the author in paragraph 3?

_____ .

3. What is it that made the definitions of concepts such as those of momentum and angular momentum possible?

_____ .

4. What are the three mechanical laws mentioned in paragraph 5?

III. Fill in the gaps with the appropriate word/phrase from the text:

With the idea of mass as a property of 1_____ in mind, the concepts of momentum and angular
2_____ were defined and related to our 3_____ experience of force and torque. This was
4_____ through the definitions proposed by 5_____, one of which stated that force is evidenced by
and in 6_____ equal to the rate at which momentum 7_____. Another important
concept, which is related to our immediate 8_____ of work, was also introduced. This was related to
9_____. Further, this concept gave rise to the idea of 10_____, which is defined as the rate at which work
is done.

ANNEX G KEY

I. (b.)

- II.
1. most precise and convenient;
 2. velocity of light;
 3. the idea/concept of mass as a property of matter;
 4. momentum, angular momentum and energy laws.

III

- 1 (matter)
- 2 (momentum)
- 3 (kinaesthetic)
- 4 (possible)
- 5 (Newton)
- 6 (suitable units)
- 7 (changes)
- 8 (experience)
- 9 (energy)
- 10 (power)

ANNEX H (PILOT TEST) READING COMPREHENSION TEST RESULTS

RESULTS

CODE	GENDER & CODE	AGE GROUP	Years of English	NAT	SCORE 15/15 = 100%
001	Female 1	20-25	--	Moz	10 = %
002	Male 2	25-35	5-6	Moz	12
003	Male 2	20-25	5-6	Moz	12
004	Male 2	25-35	5-6	Moz	8
005	Male 2	20-25	5-6	Moz	8
006	Male 2	20-25	5-6	Moz	10
007	Male 2	25-35	5-6	Moz	10
008	Male 2	20-25	5-6	Moz	12
009	Male 2	25-35	7-9	Moz	12
010	Female 1	20-25	7-9	Moz	12
011	Male 2	16-20	5-6	Moz	12
012	Male 2	20-25	--	Moz	10
013	Male 2	25-35	5-6	Moz	8
014	Male 2	20-25	5-6	Moz	10.5
015	Male 2	25-35	5-6	Rwanda	12
016	Male 2	20-25	--	Moz	9
017	Male 2	20-25	--	Moz	11
018	Male 2	20-25	5-6	Moz	10

019	Male 2	Over 35	5-6	Moz	9
020	Male 2	20-35	5-6	Moz	9
021	Male 2	25-35	5-6	Moz	11
022	Male 2	25-35	10-15	Moz	6
023	Male 2	20-25	10-15	Moz	12
024	Male 2	25-35	5-6	Moz	9
025	Male 2	25-35	--	Moz	9
026	Male 2	25-35	7-9	Moz	12
027	Male 2	16-20	5-6	Moz	8
028	Male 2	20-25	5-6	Moz	10
029	Female 1	20-25	5-6	Moz	10
030	Male 2	25-35	10-15	Moz	9
031	Male 2	20-25	5-6	Moz	9
032	Male 2	16-20	7-9	Moz	8
033	Male 2	20-25	5-6	Moz	12
034	Male 2	25-35	5-6	Moz	10
035	Male 2	25-35	5-6	Moz	10
036	Female 1	25-35	5-6	Moz	10
037	Male 2	20-25	5-6	Moz	8
038	Male 2	20-25	5-6	Moz	14
039	Male 2	20-25	7-9	Moz	8
040	Male 2	25-35	7-9	Moz	11
041	Female 1	20-25	5-6	Moz	10
042	Male 2	16-20	5-6	Moz	9

043	Male 2	20-25	--	Moz	9.5
044	Female 1	16-20	5-6	Moz	12
045	Male 2	20-25	5-6	Moz	12
046	Male 2	25-35	< 15	Moz	11.5

-- did not respond (DNR)

ANNEX I V 3 QUESTIONNAIRE

The purpose of this questionnaire is to find out about what you do when you read texts in your English classes at the university. The questionnaire is divided into three parts and you must fill in and answer all of them. The first part aims to get some basic bio data about you. The second part aims to get an idea of what reading strategies you use when you read EAP texts in English classes or elsewhere for your academic work. The third part focuses on your skills to resolve problems that you may encounter while reading EAP texts. The information provided by you is very important and will help us find answers to problems in the EAP field. All data will be kept confidentially and no names will be mentioned in the published texts. Thank you for your cooperation.

PART I: BIO DATA

Please select the item that is appropriate to you. Mark with **X** where appropriate. DO NOT WRITE on shaded parts.

NAME: _____ SURNAME: _____

SAMPLE CODE: _____

PART I: BIO DATA

Please select the item that is appropriate to you. Mark with X or Tick (✓) where appropriate Or write.

1. Age	16-20		20-25		25-35		Over 35	
2. Gender	Male		Female					
3. How long have you been studying English in school?								
	5-6 years		7-9 years		10-15 years		over 15 years	
4. Have you ever studied in a country where the official language was English?								
	Yes		No					
5. If Yes, specify:								

6. Nationality							
	Mozambican	Other					
7. If Other, specify:							
8. Mother tongue (the first language you spoke as from birth):							

PART II: STRATEGIES USED IN READING TEXTS

A. Please CIRCLE where appropriate. The numbers 1-6 tell us **HOW TRUE** the statement is about you. The numbers mean

- | | |
|--|--------------------------------|
| 1. = I never do that. | 4. = I usually do that. |
| 2. = I usually do not do that. | 5. = I Always do that. |
| 3. = I do that sometimes , but not always . | 6. = I don't know . |

Statement reflecting reading strategy usage	CIRCLE A NUMBER					
1. I guess meanings of new words using context.	1	2	3	4	5	6
2. I guess meanings of new words using clues from word root or affixation.	1	2	3	4	5	6
3. I assess the need to check the meaning in a dictionary or to ignore words that I don't know and continue reading.	1	2	3	4	5	6
4. I find words with similar meaning to replace [difficult] words to help me understand the text.	1	2	3	4	5	6
5. I identify key words/expressions used by the author to organize text.	1	2	3	4	5	6
6. I read difficult sentence (s) repeatedly until I understand then I continue reading the rest of the text.	1	2	3	4	5	6
7. I ignore difficult sentence (s) and continue reading.	1	2	3	4	5	6
8. I analyse the grammatical structure of a difficult sentence to understand the message.	1	2	3	4	5	6
9. I make note-cards or files after reading a text to remember/revise details about the text.	1	2	3	4	5	6
10. I take notes while reading.	1	2	3	4	5	6
11. I highlight/underline important sentences/parts of the text while reading.	1	2	3	4	5	6
12. I say the words out loud or pronounce them in my mind while reading.	1	2	3	4	5	6
13. I translate words into Portuguese while reading.	1	2	3	4	5	6
14. I scan the text for purpose before reading for details.	1	2	3	4	5	6

15. I use graphics like charts, figures, punctuation to help me understand the text.	1	2	3	4	5	6
16. I recognize the structure or organization of a text.						6
17. I use a table, a chart or bullet to summarize the structure of the text.	1	2	3	4	5	6
18. I use key words or topic sentences to make predictions.	1	2	3	4	5	6
19. I make up imaginary scenes or conjure scenarios with words while reading.	1	2	3	4	5	6
20. I read sentence by sentence to understand a paragraph.	1	2	3	4	5	6
21. I skim the text to get a general idea and scan for specific details while reading to comprehend a text.	1	2	3	4	5	6
22. I use prior knowledge to understand new information.	1	2	3	4	5	6
23. I set a goal/purpose before reading a text.	1	2	3	4	5	6
24. I vary my reading approach/style with each text and according to goal or purpose.	1	2	3	4	5	6
25. I reflect upon what has been learnt from the text and apply results critically.	1	2	3	4	5	6
26. I identify my weakness to improve reading ability.	1	2	3	4	5	6

SAMPLE CODE: _____

PART III. Problem Solving

Describe as best and as clearly as you can **what you would do to solve the problems** for the following academic contexts.

1. While reading a text in English you come across several words and expressions that look like (form) and sound like Portuguese and you think these mean the same as in Portuguese. How do you best confirm the meaning of such words/expressions?

2. If given two different texts discussing the same topic and asked to sum up the main points, how do you go about reading each one of the texts to make a valid and good summary? Describe as best as you can.

3. You are asked to read a large book on a topic relevant to your field of study to find out about the main idea and specific information on the theories described and conclusions reached by the author. How do you best go about reading this book? Describe as best as you can the steps you would follow (you may use *bullets* or numbers).

ANNEX J Transcriptions of TAM (RECORDED)

Data for chapter 7: TAM

Guide to use/interpret:

1. CMT021 (participants code);
2. Subject 1-10 (sequencing of participants in TAM);
3. 166 (numbers to represent a portion/part of the reading and or solution of problems; also related to segments, clauses, paragraphs, word, phrase, etc);
4. /---/ (shows beginning and end of turning, text portion, text extract, phrase or expressed idea);
5. [...whispering...] or (whispering) (round brackets used for comments and or description of what was going on during the actual thought disclosure);
6. ... (used to show short pauses and or hesitations);
7. [.....] (used to show long pauses or moments of long silence);
8. ***Italics in bold*** (used for questions by researcher in retrospective verbalizations in TAM, for example, ***E como é que conseguiu perceber a mensagem? O que é que fez exactamente?***)
9. CS (shows instances of use of Code Switching);
10. CS/ST (shows the use of code switching and sight translation);
11. CS/T (shows use of code switching and translation at word or phrase level)
12. Underlined dotted line (shows instances of use of CS/ST/T to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions);

Subject 1 CVM

code: CMT021

Date 16/05/2012

1. /Err there is nothing unusual errr.../
2. /How can people just make up this analisat[i]on (error) of the languages according to their past?/
3. /Como é que estudo podia ser feito de... muitas línguas podem ser desfeitas em pouco tempo... por um período muito curto... muito reduzido?/ (CS to determine meaning/resolve conflictuos info)
4. /How can languages die if they are not alive?/ [whispering]
5. /O mais estranho é que se assume que as línguas podem... estão mortas porque elas tem poucos pessoas... falantes/então há muitas línguas mortas...ok ok/ /são línguas com poucos falantes... menos de cem ...[whispering]]/ [.....] muitas línguas estão mortas./ (CS to determine meaning/resolve conflictuos info)
6. Keep on talking, keep on talking...

7. /Err just trying to survive to care their language [.....]// How could you save these languages in order to avoid their death?// Something which doesn't come...ok how?// In order to revitalize revitalization... a language, how can linguists revitalize a language?// How can linguists revitalize a language?/
8. /Talvez tentando meter algumas pessoas nestas comunidades em que se fala pouco. //Talvez numa língua de poucos falantes... comunidade de poucos falantes... [whispering]/ (CS to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)
9. /Quais são as medidas para poder revitalizar as línguas?[whispering]//Ok ok [.....] oh/ (CS to question oneself)
10. Keep on talking
11. /The language...// The community must want to save their language, how?// Meio estranho/ (CS to determine meaning//resolve...conflictuos...info)/...which ok...// funding...funding..funding funding funding funding of fund...foundation...materials...// we need to bring linguists together ...paper, [whispering]// isso é uma forma de salvar de fazer com que as línguas não desapareçam ...[whispering]/ (CS to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions) /If someone must want to save its language, how?// Uma forma de fazer com que as línguas não desapareçam é ter algo gravado. [.....]/ [CS to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions] [whispering, flipping pages]
12. Keep on talking, keep on talking
13. /It costs a lot of money, funding, funding, funding (...whispering...)//...The language to be saved according to Arty, it would need much money, hundred thousands of dollars, so it is not very easy to find that money.// In case of people who rely on funding they cannot do it... hum hum [whispering] /
14. /Welsh...is welsh a name of a linguist, country city?... [whispering]//... welsh is a language (...whispering...) world...world...[whispering]...// On the other side of the world...// language nest...o que é language nests?// Nests hum hum...ok talvez seja//consultar?//talvez vá ver no dicionário a palavra nest// [read text aloud]...nests... nests must be er.. er...like school for children to teach some language according to... ..they become more [.....] uma geração melhorada para poder incutir talvez noutras modalidade linguísticas noutras crianças... of the world, the language is associated//... specially striking... specially striking.... can be specially striking ...maybe strong [whispering]/ (CS to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)
15. /Hum... [whispering] hummm...nas línguas são romanas romanisch...Switzerland..Switzerland..Switzerland...é Hollanda Hollanda ...[whispering]... romanisch talvez seja a língua oficial da switzerlandé uma língua com cinco variantes... small and .../[read text]/.... As young people leftand went to Germany ...ok ok... //muitos jovens saíram para cidades alemãs e onde se falava alemão ok... pessoas...emigration and didn't try to return... they try to find language by funding one unique form of writing romanisch...//... seria uma espécie de uma variante do romanisch ou Holandês talveznow called as a oficial speak ...[whispering]//... on radio and television aqui a tradução pode serback from the brink of extinction... como é que uma língua pode ser salva dessa né...dessa extinção? [.....]/ (CS to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)

16. Keep on talking, keep on talking...
17. /And a language of Japan suffered years of neglect...neglect neglect...neglect neglect ...what is it?/ neglect..neglect... repression....[whispering; reads text]...neglect, neglect, neglect hey o que é... eish isso ta complicado talvez...mais tarde/ (CS to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions) [whispering]/...local importance put pressure semi-speakers... seria uma especie de falantes não muito fluentes...people who were becoming speakers again//Japanese speakers were prompted..speakers again...no...language small.....[whispering] it has been for years.../
18. /ok...ok...materials...what sort of materials could be found here?// Kurna...doesnt make sense?...[whispering]....ok ok to make sound ...Kurna?// Ok...exemplo de uma língua que esteve extinta e porque desapareceram todos os falantes de acordo com as barreiras anteriores do texto mas porque que foi documentada então ainda há uma margem de esperança para que possa ser resgatada// ...so when a strong movement grew for its revival...hummm hummm ... [.....]/ (CS to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)
19. keep on talking... keep on talking
20. /err... ganha mais vida quando são mais faladas....[whispering] (CS to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)///...it is difficult to predict the future with regards to languages// ...não entendo...// uma espécie de receio...errr... //in some parts of the world...the range of positive attitudes [whispering]...// ok...support... precondition for language survival.../
21. /...seria uma espécie de predisposição, condições, condições previas para que se resgate ou a sobrevivência das línguas .../ (CS to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions) [whispering reads text] ..write appropriate letters// ok// the existence of written language.....support of the indigenous population... speakers of different ages .../ ..ok...the existence of the written language hum.../ the support from the indigenous population, historical development of the language, arrange the speaker of different ages, the formal education procedures, the common purpose for which the language is required, help from the language experts.../
22. /..talvez aqui se adequam as alternativas... //the existence of written languages...it has been mentioned by the writer of the text ...the existence of ...languages...../(task completion and participants flips over and over the pages and repeats himself with choices to alternative answers)

Subject 2 MR

Code:MRM004

23. /I didn't know that linguists have put price on languages?/
24. /To save language from extinction... yes// I knew that many languages are in extinction.// More and more people are alternative and communities of dead... I didn't know that./

25. /Yes, there is an unusual single language, this I knew.// I also knew that communities have gone and gone through history in medium language, I also know that, but today something extraordinary is happening I didn't know that.// How it was judged by the standard of the past?//...I don't know how that was judged by the standard of the past?/ /Yes, there can be an extinction of languages in massive scale ...but 6000 languages in the world wow!/ /...is too much, I didn't know that, and about 3000 languages in 1000 in two hundred months on average is dying...// I didn't know that//...that's too much languages dying in this high numbers...[whispering]// Yes. that happens on language that are to die there are very few speaker who can speak// ... I know that but but linguists conclude that languages are bound to die out soon, how?// ...there a languages that has less than 100 speakers, wow it is very few.../
26. /...there are only 90% of world languages are spoken just 4% of the people, wow!// ...that is very very less./ hummm /
27. /It is too late to help many languages? //How is too late?// Can't we just find the solution to solve this problem? [whispering] (noise from outside)/
28. /Yes, the community might be busy trying to survive or care about their languages, yes they are, and actually they are.../
29. /But why many languages are not in serious position?// Why? //....ya there are thing that can be done, yes know... this revitalization of languages?// ..how it can it be done? // But does the community does not realize that the languages are in danger? //... they do realize, but what they do to solve this problems? [whispering]/
30. /They introduce measures, ok, but how these measures help to save the languages?// ... [whispering] That can be a problem also that some cultures does not respect the minority languages...//yes it can also be a problem. [whispering]/
31. /...the material courses and teachers are very important, and I think there are some countries [coughing], some languages they have no these sources to help the languages to survive.// The basic text// ...tribes are done on paper...//what is this basic tribes?// There are some languages which are written down, recorded an analyzed. //What about the languages that are not reported and written down and analyzed? //There is nothing recorded.// What would be the procedures to save these languages? [whispering]/
32. /People might be able, yes, to read and write their languages...// but if the people don't have access to these materials, what they will do?// ...Save [lowered voice]//...hummm I don't know if we can save thousands and thousands of languages, can we?// I don't know./
33. /Yes there might be some funding available but hum...// it is very very difficult and for me I think there is languages// ...are languages that are really in danger and can't be saved no matter the method of procedure you used./
34. /Yes...it is not cheap to get linguists into the field yes...hummm / [whispering]
35. Grammars and dictionaries, written materials take a lot of time, yes, but if it takes a lot of time how about if we don't have time to wait and we are really in danger of losing the language? //What we do if it takes time to make dictionaries and grammars?/ [whispering...flipping pages]

36. Wow...that's too much!// 1000...100000 year per language cannot be far from the truth!// How?// How it happened? [whispering]// ...300 hundred languages ...How 300 languages could be taken about some 900 million?/ /It is too expensive,// how about the country that do not have this amount of money? //There are famous some cases?// Which cases are these?...language is degrading and in serious in extinction and signs...// how these signs are?//...science really... how protection...that where trouble goes [.....] [lower voice not perceptible]/
37. /What is this of language nests?....[whispering]/
38. Keep on talking, keep on talking..
39. /Ya//...exposed language, which is this of exposed language? //....[whispering] Children will keep their mayoral skills alive after leaving the nest?// How...how children will do that?// ...As they grow older they will turn.. become role models to the community// ...oh yes, I understand, maybe they will pass this way of speaking and using the language to other children, this I understand.[whispering] /
40. /Ok yes// This case happens in all the world.// The language is associated with the degree of political autonomy? //But how this happens?// How is the language associated with the degree of political autonomy? //....[whispering; imperceptible]... the growth...how in Faroe...received autonomy from Denmark... these situation spoken in five different dialects ok ok so it is more numbers than national languages//...in Switzerland, Rama is spoken in different situation, which are these situations? //Ok, these are the situation spoken in five different dialects, ok.// So in small and diminishing number, young people left their country for German speaking cities.// Ok, how does it happen? //Ok, because of the location...and that's ... way of speaking when people go out and they come back, they come with another variation...//ok ok that true...a solution was created...//which is this solution.../
41. /Which was this solution created in 1980?// ...ok unified read languages, ok ok so this unified read languages was created in this year 1980....and now called official statute in parts of Switzerland and its being increasingly used...//why has this happened?//....ok it got official statute because it was spoken in radio and television.// Maybe that... why... //How language can be brought back from the brink of the extinction?// ...oh Ainu language of Japan...I didn't know Ainu language was from Japan...was of Japan I mean.../
42. /...why people neglect to reposition...//...the repression and reach a stage where there only eight fluent have left...government policies// how? government attitude... how? government attitudes I think the attitudes are not enough// I think because it but doesn't solve the problems, // but why these Japanese speakers have negative attitude about people who speak Ainu...// because people were promoted to became speakers again when the speak Ainu...but why?/
43. /But why//...ok ok now I understand because languages nowadays is more publicly available than it has been for years ok ok....[whispering]// hum if good description...but these materials and descriptions and materials are available and even extinct language but how can it be resurrected even if they put all these procedures and descriptions and so on people can't use them and when put in mind that the language no longer exist they will not speak it...even if they put materials and description// ...Coming from outside is an example maybe is an example//...ho how this language has been resurrected with quite well documented ...about a century? // how this language has been resurrected? //With

quite well documented from hundred years.....but it is a bit strange...// ok it was possible to reconstruct it because of the movement growth for its revival but it very specific very specific [imperceptible]...depend on policies and interests of the people who want to resurrect the language and...[imperceptible] ... language resurrected is not the same as the original because the original has always something that is different and the resurrected language is not the same even Portuguese spoken thousands years ago is not the same the vocabulary and rules have been changed...[imperceptible]// to mark of identify language is also a mark of identity and people who spoke language long ago are not the same, culture.../... as long as they continue to value to value as their true mark of identity as we use language it will develop new functions and new vocabulary and my children will not probably speak the same language as I'm speaking now...//...range of .positive attitudes hum humm from grassroots// yes. it should from grassroots support because it is the main thing you should focus on....[whispering]/

44. /preconditions.....too soon to predict the future of the survival of these revised languages but how is too soon to predict? // May be because this revised language is not widely spoken..ok ok ..//.why grassroots is a preconditions for survival of language? //How...how they are reconditions of language survival?// How has the grand total of language in the world have had a minimal increase?//...maybe these grassroots are preconditions because they are the ones who keep the languages...range of positive attitudes maybe.... [whispering]//...so it that case this text has been interesting are some points that I have been a bit confusing especially the point where language that are dead can be resurrected but I think that there are some that cant [.....]/

45. Keep on talking keep on talking.

[reader sums up ideas gotten from text: grassroots, variations, attitudes,... language experts etc] and does exercise...

46. /They are languages that had acquired the official statute in the part of Switzerland where they were increasingly used. //Why that this happened?// They used in the television.// How do the politics of the government manifest interest to revitalize the languages?// Perhaps its attitudes are not enough...//... Was hymn, the language spoken in Japan rejected and reached to a stage where had only 8 speaking fluent people, all old ones./
47. /Why the Japanese people had this attitude? /Oh, yes I know, that is because the languages now are more available publically than they were in the past.// How was it possible to revitalize a language that has been lost for a century? //It was possible because of the group of revitalization movement, but even so, I think that it is a particular case.// I think that it depends on the politics and interest of the people who want to revitalize.// This is obvious; the language resuscitated will never be same as the original.// Of course, it will suffer some changes, even Portuguese that was spoken 1000 years ago is not the same that we speak today.// The vocabulary and the rules changed and the people who spoke Portuguese 1000 years ago are not the same that are speaking today. /
48. /I think that it also happen due to the culture and the life style.// Perhaps, my children and my grandsons will not speak as I am speaking now...// ...Grassroots is the precondition of the language revival...//... there are some questions that worry me and one of them has to do with the dead language.// There is a case where the people leave from one community for another community and when they return for home, they come back with new vocabularies and a new way of speaking and this also has to do with those languages that are not used and after 100 years they are resuscitated and later they suffer some changes. // The factor that are important to assist the revitalization are

various: The indigenous population, the people of different ages determine the use of the language in different spheres.// The formal education procedure demands the good use of the language.// The historical development of languages and the different uses of languages for people of different ages./

Subject 3 BBS

code: BSG027

49. /In what context the language is being saved? /
50. /What do they mean by putting a price on language?// ...To save a language from extinction isn't cheap [lowered voice] .../
51. /The deaf of communities//Why is the deaf of communities is an alternative?/
52. /How many languages have died before?//...since it is unusual.../
53. /How many communities have come and gone and lost their languages?/
54. /What is happening currently that makes this fact extraordinary?//....language extinction in massive scale...ok...that's it!// That doesn't make it necessarily true!//...this is an interesting fact the fact that 6000 languages are going to die out in the course of the next century... 3000 languages in 1200 months, wow!// ...every two weeks...gets more interesting by the minute [.....]//
55. Keep on talking, keep on talking....
56. /[whispering] ...Ok the is going to pass the language to the children ...//...ok that is happening here as well in our country, that's reasonable ... realization the fact that [.....]/
57. /Keep on talking keep on talking.../
58. /...[imperceptible]...[whispering].../small percent of people... speak 97% of the languages wow!/ ... Can we do anything about it?/...the ...is too busy/ ...that's true especially in Mozambique/...but why is it that language are not in such a serious position?/....this interesting.../[.....] languages are serious in danger many what kind of measures can be introduced to save the language/....eh it is the desire of the community...I see... [.....]/.
59. /Hum ok they need to be respected for but how much funding is needed to support this [.....]/
60. Keep on talking...
61. /Linguists need to be there to carry on a languageto put it on paper// that is basically it bottom line... language on paper written down// ... of course of course it might happened to Bantu languages if people are not careful/...industrialized world....depicts civilization...[imperceptible]// interesting question/ ..how can we save thousand languages just like that?/ ...you could if there was enough funding//... ok train linguists local analysts/ ...that is not very easy in our country, supporting the community with languages and teachers//grammars, writing

materialsin our country with languages like Shangane//...it is possible to see if that works//...becoming extinct...of course the nature of language.../

62. 100000 a year if generalize...ok...3000...it a lot of money ...I'm not sure it could be done....hummm
63. /Celtic languages?//...ok trying to...// what are Celtic languages?/...ok extinction/.... how did it grow?... /how did it revitalize in this case.....[imperceptible]/... languages Acts so laws can protect languages/...I'd like to go to...one day...[imperceptible]/
64. /So called language nests/...what are language nests?//...[imperceptible].../ok organizations providing children under five ok...domestic settingstend to be exposed, ok// ...of course... of course...children ...that's what they hope to accomplish ...new generation...all over the world//...I have never come across this type of information before.../
65. /...ok.. political autonomy,... wow!//Faroese where is this spoken...Faroe Islands//....it is new information for me!// It is an island they colonized by Denmark or sort of .../
66. /Switzerland... ok...Romansch?...different dialects//...let the community working ...in a difficult situation speaking different dialects//... small and diminishing numbers...// young people ok/ ...difficult situation what the solution unifying different language/ wow/ that must be hard to /...Switzerland just did it/ ...so it possible to revitalize the language by unified dialects ...languages even if in a brink of extinction/...Ainu from Japan/...repression...was repressed wow how?/ In what way?/ How was it repressed...repressed because it only had 8 fluent speakers, 8?/ wow ...all elderly...government policies/ ...still it must be difficult to something like that survival/ ...semi-speakers...semi-speakers... what could that be?/ people who don't speak language too well not bad either//...what do they have negative attitudes towards this language//...people want to become speakers of this language again so government became interested ...[imperceptible]// ...the government must have...//it is hard to understand this...// at stage when there were only 8 speakers...ok...//new government policies fresh attitudes, what could these government policies be?/...they do not mention it here ok//...what if routine actually they manage to do it...//good descriptions of materials... //an extinct language can be resurrected...[.....] //it had been extinct for a century...//how can you revitalize a language that was dead for about half a century...a century?//....ok well documented alright ...well we'd already talked about documented languages when a strong movement calls for its revival...//....it is possible to reconstruct not the same as the original...//ya it's been a long time it explained why the range that a has been there.....[imperceptible]/
67. /...badge...badge...ok...//[reads] [imperceptible].....keep using it keep it for development functions...of course...// new vocabulary of course language is not static ...it keeps developing...//it is too soon to predict the future of the revival of languages.../...some parts of the world ...hummm...precisely....preconditions...grassroots....preconditions....pre-condições.../(CS/T to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)//....alright I have already seen documentation...//...in such unexpected and heart-warming ways (reads x2)..[imperceptible]//...the grand total of languages in the world...heart-warming heart-warming...it is closest to the heart? Ok...//

68. (Participant move to exercise and starts deciding on what to read) (...reads statements and relates to text...and lexical items/expressions and asks himself questions...etc...)

Subject 4 JMM

code: JMM028

69. /Há uma necessidade de salvar as línguas.../ (CS to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)
70. /Err...Há um estudo feito com cerca de 6 000 línguas no Mundo//... alias o estudo diz que há cerca de 6 000 línguas no mundo, ok//...err parece que algumas línguas tendem a cair em desuso e assim acabam extinguindo-se daí a necessidade de se salvaguardar a línguas err.../ (CS to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)
71. /Os linguistas têm trabalhado muito nesse sentido estudar as línguas em desuso...err//... mas não tem sido fácil porque algumas comunidades falantes destas línguas desapareceram ou os falantes são poucos das mesmas línguas...//... err mas também nem todas línguas estão nessa situação//...pelo que vejo há uma necessidade muito grande de salvar as línguas sem afectar a parte cultural uma vez que as línguas transportam essa componente...//...há uma necessidade de criar condições materiais e professores para ajudar nesse processo todo de preservação da língua e cultura...//err...// Dai a necessidade de ter a língua gravada, documentada, analisada... tudo mais...err//...então de forma geral parece-me que os linguistas estão mesmo preocupados em ter gravações e ...documentos escritos// aquilo que seriam as características de algumas que caem em desuso e que caíram em desuso//...eles sentem.../... há necessidade de não só recorrer aos falantes mas também criar as condições materiais e , professores e que falem disso ... / (CS/T to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)
72. /Há alguns casos de exemplos de línguas que caíram em desuso, exemplos citados...//err.. vejo palavras que não conheço e não me aparece uma imagem que posso associar .../ (CS to determine meaning/resolve conflictuos info/predicting or guessing meaning)
73. /E err...há exemplos de países como a Nova Zelândia e Suíça em que da mais ao menos o parecer daquilo que aconteceu com as línguas ou os falantes lá tem acontecido.../ (CS to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)
74. /Err...language nests?// ...não percebo muito bem o que é isso...//...mas os casos identificados por exemplo na NZ existem noutras partes do mundo o que é então uma coisa familiar.../ (CS to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)
75. /Romansch?...uma coisa nova.../ok/...a questão da Suíça parece que é uma pouco mais complexa...//há vários dialectos...errr//...parece que a extinção da língua é preocupante porque quanto menor forem os falantes poucas as possibilidade de set coisas gravadas ou escritas.../ (CS to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)

76. /...há muitos estudos por exemplo na parte sul da Austrália em que há outro exemplo de uma língua que esteve em extinção e que se extinguiu //a questão que se faz referencia é sempre a mesma numero de falantes menores daí dificuldades em adquirir material escrito ou gravações para que se possa fazer um estudo linguístico mais aprofundado... //...e assim sendo não é possível prever o destino das línguas existentes...// (CS to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)
77. /Algumas palavras novas para o meu lexico...//acho que é tudo...//.(CS to confirm the learning of new lexical items info/)
78. /Err... tenho que ler, perceber e responder as perguntas//... tenho que estabelecer um tempo e quanto menor for o tempo, menor para mim.../... é a lista e nesta lista deve haver o papel que corresponde ao que vão me perguntar/, o papel deve estar ligado a um outro auxiliar que deve ter de forma mais ampla resposta que vou precisar colar no que é me pedido/, portanto, vou precisar de um tempo para fazer.../(CS to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)
79. /Err... factores... /que são necessários para percepção da língua estão no texto que acabei de ler, embora não tenha lido profundamente..ok.../(CS to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)
80. /...então, tenho que procurar entender o que mais ou menos o texto apontava para encontrar esses factores e esta dividida em parágrafo e é um parágrafo para finalizar a pergunta.../..Ok.../(CS to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)
81. /Err isso aqui parece mesmo complicado...hummm/ ...ok// ...alguns factores que são necessários para indicação da língua numa comunidade.../... os factores são aqueles que é documentos escritos, gravações e ter condições materiais para arquivar factores necessários para preservação.. ok...// ter ajuda de falantes dessas línguas.../.. conhecer o desenvolvimento histórico das línguas, também envolve conhecer os falantes das idades diferentes...//... conhecer falantes de diferentes níveis de formação ou educação...//ok...//...então [.....] (CS to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)
82. Keep on talking keep on talking
83. /...err por enquanto, acabo não percebendo bem porque o texto começa a fazer questões 33 e 35 mas vou responder aquilo que eu pude ver para não perder tempo.../(CS to question his/her own understanding of task/determine what to do) [answers in the target language and participants decides on better choice, sounds statements in target language]

84. /Er... Many people are not using their languages, which couldn't be like that...//...there should give more respect to the language so as to save languages so that languages can die... and communities and people have been using languages for ages /...if it dies things in the community are is going to get worst [.....]/
85. Keep on talking..
86. /...[whispering] ...That's why we have to see language as a powerful tool...//... we should do every endeavour so as to no not kill it...//... So the 6000 languages that exist worldwide so if people don't use these languages mainly in Africa where people tend to not use their own language and use the official languages...//...so we may have some extinctions of languages....//
87. /In Mozambique for example Xichangana language is not being spoken by many people mainly when there are in cities// ...err.... children at schools they do not speak and parents at home whenever they try to speak their mother tongue Xichagana they tell not to speak and speak the official language [.....]/
88. Keep on talking...
89. /...that's why we have to give it home importance...//
90. /...4% of the world speaking 97% of the world's language...//... so...that's... that means that language is important [.....]/
91. keep on talking keep on talking
92. /So [.....]/
93. keep on talking
94. /...We have to give new life to languages for example in African countries we can introduce them in the curricula so as help them these languages that are on the verge of dying and if we do this children are likely to consider their languages and use these with other people...//...we can do this though giving material to teachers// ...we boost them up and stimulate them to use these languages because some teachers are not so very attentive to these languages area dying....//
95. /...and we have to boost children up so as to write using their own languages...//... many people... many writers in Africa they write poems and different texts but they do it usually in official languages such as Portuguese and English...// and ... they don't it in their language so we have to make people do it...//...starting from the bottom [.... ...]/
96. keep on talking....

97. /So all this ...we have [imperceptible]...//... we can call a linguist in order to have a talk with teachers and explain how local language grammar should work in order to revitalize the language [.....]/
98. keep on talking
99. keep on talking....
100. /...as we can see...even English language ...Portuguese language after the independence ... Mozambique independence...//...not many people spoke Portuguese...//...they started to speak because of policies ...policies tending to give it more value ...//... ideas from Mr President Samora Machel for what he called Unidade Nacional.../ (CS to determine meaning/resolve conflictuos info/ confirming predictions), which is uniting Mozambicans, getting Mozambicans together for one single purpose /and for that to be possible they had to MOZ people had to speak the same language/ because there are many languages in Mozambique...//... and by speaking one single language we can easily understand each other very easily and so we have to do that with children who are not allowed to speak their mother tongue...[door noise]/
101. /...and build organizations which provide children with these different sources about these languages/ /...we can also call local leaders local community leaders to explain them how these have come to be used/ and how they been used/ and how they have been important in their daily lives.../ and tell their children that their parents are what they are because of these language/ because they could communicate using these languages so the new generation may also inherit these languages [.....]/
102. keep on talking...
103. /And politicians to do too and bear in mind these issues and try to have linguists [.....]/ [door noise].../
104. keep on talking... keep on talking...
105. /...the solution can be creating more schools and engaging more children since the idea is having more children speaking these dying languages/ and we could use that by building schools and use radio, TV to talk about these languages/ and so the extinction of languages could reduce...//...so we have to trust these new...the government policies/ and we have to see them as important tools...//... and explain people apart from children the importance of these languages/ through TV we can explain their parents...//... we can be explaining their uncles and all people who might not be involved in these policies since they may be not studying at this moment and they may be surprised when start to listen to their children coming with matters of dying languages...// ...languages that they forbid them to speak...//it could be sort of a fight between parents and children, but it is necessary to explain parents and have them help their children and help the government and linguists to bring these languages forward...//...we know that dying languages are those that people think are very traditional, that old and those are for old people.../so we have them understand that no languages ...no language is higher than another/ ..and that all languages are at same level and no languages are more important than others.../

106. /...and if we have material enough for this many languages can be... can be valorized and the extinction of them can reduce...//for example we have Kishiwali in Tanzania which is a language that has been introduced by the president as official language and many people started to see this as an important language/
107. [background noise]/...so we can reconstruct these languages, these dying languages by giving them more value and importance.../[.....]
108. keep on talking...[noise of steps]
109. /So people need to continue giving these languages more value and they need to identify themselves by these languages...//no one should their identity language because it is traditional, because it is mainly spoken by old people, because all languages are important and they have functions...//if old people communicate it means...through that language it means it is important as any other region in the world because the importance of language is to communicate through it, //and if a language can be used to communicate it means that language is important...//so we have to gain positive attitudes in order to...//with regards to valorizing languages and valorizing our roots or the language...//even people who live their countries and go abroad and learn other languages they shouldn't forget their own languages,/ their mother tongue regardless of its position or the position of ...social position of the people who speak the language.../
110. ...so if we did...if we do these for the languages it could be more important...//think aloud exercise (allusion to answer sheet) [.....]
111. keep on talking...
112. /...allocate the time to section... /ok/ ...35...33...33..35 only these three questions.../check these three...it is a decision.../(reader starts reading choices and plans exercise; reads key words: dead languages etc... and so on.)

Subject 6 AAM

code: ARM022

113. /Saving languages ...I can see this picture here...//I can't see well, but let me read so that I can understand...//I see someone calling like calling to the policies...// what is it...it is like on saving languages... err/ let me read this.../what I call in Portuguese 'care' ... an elite...group.../
114. /For the first time linguists have put a price on languages...PRICE?/ To save a language from extinction.../new people are betting on that.... [mumbling; imperceptible]...//ok I think this text is about how to save a language that is in extinction...//
115. /Ok...let me read the first part so that I canthis is nothing....//a single languages have come and gone (mumbling)...//...I'm not thinking nothing now I just want to get what they say and...[laughs]...//in the past it is a language in extinction in massive scale...according to the test.../er....some six thousand languages and the half of these languages are going to die out in the course of the next century.../that's 3000 thousand languages

...well...anyway//...according to the first paragraph there are languages dying ... if I'm not mistaken three thousand languages...//

116. /Let me the next paragraph.../how do we know?/...in the course of the past three decades linguists all over the world have been gathering comparative data in what today is comparative data.../do they compare dying languages?/ ...ok/ let me see if they have found a language with a fewer speakers left.../and nobody is bothering to pass their language to children they should conclude languages is bound to die.../ how soon?/ Err...será que está a acontecer mesmo com o Ronga?//...parece que em Maputo os pais só querem falar português.../(CS to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)// I see and we have a should draw the same conclusion with a language with less that 100 speakers...//samente cem pessoas significa que a língua está a morrer!/? /(CS to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)// ...it is not likely last very long...a 1990 ..er...a 1990 survey shows that 97% of the languages are spoken by just 4% of the people.../97% das línguas faladas so por 4% das pessoas?/ Como é que está relacionado com o titulo? ...saving a language...ok...let me see.../ (CS to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)

117. /...it is too late to do anything to help many languages because the speakers are too few or too old and where they cam.../ok/ deixe me sublinhar isto...// (CS to determine what to do, i.e. underline part of text; use of a supply strategy) /...since it is too late to help any languages where the speaker are too few or too old...yes/...maybe I hum I agree [mumbling]...the just [imperceptible]...to care about their language...but many languages are not yeah/...let me see what they say next/

118. /...languages are serious endangered.../agora não estou a entender nada.../(CS to determine question oneself when dubious) /when languages ae seriously endangered there are things that could be done to give new life to them...it is called revitalization of /...errr eu ja ouvi isso numa disciplina er... a revitalização linguística...ok...a revitalização do Xironga em Maputo ou uma coisa parceida/ (CS/T to determine meaning/resolve conflictuos info/ confirming predictions and old know knowledge)

119. /Errr once they come to realize it languages...languages in danger/ it can start to introduce measures which in general view revitalize.../será que a comunidade pode fazer isso? (CS to determine question oneself/resolve conflictuos info) /Hummm I think if a community does nothing to revitalize their language...but what happened in this story?/ ...just carry on.../

120. /...the cabinet must want to.../...the community itself must to save its language and the culture in which it is part must have a respect for minority languages.../...isto tem que ver com orgulho da propria comunidade por exemplo não querem que essa lingua morra...humm eerr .../(CS to determine resolve conflictuos info /confirming predictions)/ ...there needs ...there needs to be funding to support classes , materials and teachers.../...é verdade mas ninguem se interessa em financiar a reposição da língua Ronga (CS to agree with author's opinion/texto information)/...let me see the next part.../

121. /...there need to be linguists to get on with the basic task of putting language down on paper.../that's the bottom line/... getting the language documented, recorded analysed and written down.../people must be able to read and

write in their languages it their languages are to have a future in an increasing compu...computer literate civilization.../hum I got the point here/...efforts must be done to revitalize the language, but who is interested in doing such a thing/...saving the language is the title.../...let me see maybe there is something to save a language!!! /But we can save a few thousands languages just like that?/ ...yes if the will and funding were available...ok/ people can be willing to do that ...podem querer, mas como? (CS to question oneself)/ It is not cheap getting the linguists into the field, training local analysts, supporting the community with language resources and teachers, compiling grammars and dictionaries, writing materials for use in schools .../Yes it is quite expensive.../let me underlined this part because I will need them for my general review.../

122. /...it takes time, lots of it to revitalize an endangered language.../...conditions vary so much that it is difficult to generalize, but a figure of \$1000000 dollars a year per language cannot be far from the truth.../HUM?/ lot of money to save a language...definitely our country wont...can't do that if we had already made that effort a few years ago to save some 3000 languages we'd be talking about some 900 millions...that too much!/ And so far I have seen that they are talking about cost and challenges of saving a language...but did they do anything related to that?/ There some most curios things of language I'm reading errr the next part.../

123. /...[reads text silently]/...there are some famous cases cases which illustrate what can be done./... Welsh, alone among the Celtic languages.../where is this language spoken? England?/...like gales?/ (CS to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions) /...err,...ok welsh./ Alone among ...não conheço está língua aqui... (CS to question oneself/determine meaning/resolve conflictuos info)/ let me.. alone among the Celtic languages ..ok it belong to a group of languages/... oh let me underline this.../Welsh and Celtic languages...[reads text aloud] /...is not only stopping its steady decline towards extinction but showing signs of real growth./ This one is growing two languages and protect its status and increasingly its presence wherever you travel in Wales.../...ahm Wales I know Wales, País de Galês in Portuguese I think... (CS/T to determine and confirming predictions)/ so it is a language spoken there.../...so two language Acts...they talk about two language acts.../the...tais medidas para proteger a língua! (CS/T to confirming meaning)...ok let's understand it.../

124. /...on the other side of the world, Maori in New Zealand has been maintained by a system of so-called 'language nests', first introduced in 1992.../I think now I got the second example , Maori spoken in New Zealand.../what happened to this language?/ I didn't quite catch that.../ it has been maintained by a system of so-called language nests...language nests...nests? /...Bom, is that 'ninho'? hum errr ...ninho de línguas? (CS/T to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)/ Ok...let move on.../...introduced in 1982...[reads text aloud]/...These area organizations which provide children under five with a domestic setting in which they are intensively exposed to the language. /The staff are all Maori speakers from the local community. /The hope is that the children will keep their Maori skills alive after leaving the nests, /and that as they grow older they will in turn become role models to a new generation of young children/...hummmm este é um exemplo de pessoas falantes dessa língua que estão preocupados em introduzir e fazer com que ela continue a ser falada... (CS to determine and confirming predictions and conclude)/.... teaching...they are teaching their children hum.../... hum I will underline this part 'the staff are all Maori speakers from the local community...// and their hope is

that children will keep their skills after leaving the nests'... definitely 'nests' must be 'ninhos'.../ (CS/T to determine meaning/resolve conflictuos info/confirming predictions).

125. /...umm hummm...there are cases like the one im reading now.../there are case like this all over the world and when they revive a language it is associated with a degree of political autonomy,/ [reads text] the growth can be especially striking as shown by Faroese, spoken in the Faroe Islands, after the islanders received a measure of autonomy from Denmark.../...I don't know these Islands but I can see they speak Faroese and did all...hum/ ...they could protect their language or revitalize their language hum because there was political power behind it.//...hum vamos estar em costas quentes em que os politicos estao interessados...[impercetible] (CS to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)/...there were people...if political people were interested in Ronga it would be revitalized.../

126. /...ok tem aqui dois exemplos humm três, Welsh, Maori and what is that?/...Faroese...there examples...in Switzerland, Romansch... it is another language... romansch (stress on 2nd syllable)/ (CS to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions/question oneself)/. I hope this is the pronunciation...[reads text aloud]/ ...was facing a difficulty situation, spoken in five very different dialects, with small and dimi...diminishing numbers, as young people left their community for work in the German-speaking cities.../yeah.../so people moved from their lands and the only few people remained there speaking that language, but what caused the difficulty for this language... i didn't understand?.../[goes back to text]/ ... was facing a difficulty situation, spoken in five very different dialects...ah...this language Romansch has got five different dialects...let me underline romansch...five different dialects..., small and dimi...diminishing numbers, ...let me underline this...because young people left their community for work in the German-speaking cities./ [continues reading text aloud]/...the solution here was the creation in the 1980s of a united written language for all these dialects.../...hummm what was the solution?/ Let me underline...the creation of a newly unified written language for all these dialects...so they..they put the language, they used all that dialects to unify into only one language, /ok...(mumbling)...let me read the rest.../

127. /...[continues reading the text] Romanch Grischam as it is now called has official status in parts of Switzerland and is being increasingly used in spoken form on radio and television.../...hummm it has got a new name now...Romansch Grischum...hum difficulty to read.../...this is being used as an option here on radio and television.../...let me underline radio and television.../...so far this is the fourth example of revitalization of a language.../

128. /... let me carry on reading the next two paragraphs .../[reads next paragraph slower than before] ...a language can be brought back from the very brink of extinction./ The Ainu language of Japan, after many years of neglect and repression.../...had...neglect and repression...who can repress(ion) a language?/ Why?/...ok let me just the name of the language....The Ainu language/...ok ...[continues reading] ...had reached.../ let me carry on reading.../...a stage where there were only eight fluent speakers...only eight fluent speakers?!? /Eih that language...eight people!!!/ It reminds me of the Lutchi não é?...[impercetible]/ (CS to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions) /...only eight people ...surviving in the world.../...Porquê? .../ (CS to resolve conflictuos info/predicting or guessing meaning/question oneself)/... speakers left ok this is only because people left were all elderly.../...hummm eles estavam todos velhos como é que podiam espalhar a língua?/ (CS to confirming predictions and reach a conclusion)/ [goes back to text, but at a faster pace]...However, new government

policies brought fresh attitudes and a positive interest in survival.// Several 'semi-speakers' – people who had become unwilling to speak Ainu because of the negative attitudes by Japanese speakers – were prompted to become active speakers again./.... Oh even in our country there are semi-speakers of some languages like Xichopi.../...people know it but they don't speak because they live in a town.../ ...ok ok lets just carry on.../

129. /...[reads text rather in funny manner] There is fresh interest now and the language is more publicly available than it has been for years.../...Yes another strong example of revitalization.../the Ainu language from Japan.../...let me carry on/...there are two paragraphs left and maybe these ones are conclusion paragraphs/ what did they say? ...[reads the text aloud]/ If good descriptions and materials are available even extinct languages can be resurrected. Kaurna, form South Australia, is an example./ /...so why did they put this?...Kaurna.../what makes this different from the others?/ So...[rereads text] two paragraphs left and maybe these ones are conclusion paragraphs what did they say .../[reads the text aloud]...if good descriptions and materials are available even extinct languages.../ ah this is ...it was one extinct language...different from other which had some speakers of... though few speakers...this must be ...it was an extinct language...oh from South Australia.../ is an example.../

130. /...[reads text] this language had been extinct for about a century.../so how can they revitalize an extinct language?/ [goes back to text]...but it had been quite well documented.../... ah ok it was available in material any physical materials...might be.../ [reads text] So when a strong movement grew for its revival, it was possible to reconstruct it./ The revised language is not the same as the original.../...of course. ...It wouldn't be!...Hum it is what I'm thinking...[goes back to text] /...it lacks, lacks the range that the original had.../... yes I know this because vocabulary is not static...vocabulary changes/ [goes back to text]...but it can nonetheless act as a badge (mispronounced) of present day identity for its people.../...'Badge' what is that?/ ...ok let me understand from the context.../ ...'Badge'?/ [rereads text to the end of paragraph] ...but it can nonetheless act as a badge of present day identity for its people./ And as long as people continue to value it as a true marker of their identity, and are prepared to keep using it, it will develop new functions and new vocabulary, as any other living language would do....../...Não entendo o que é isso de 'Badge'...não acho que não! ...o context ficou!!! Não influencia o context (meaning the message not context).../ (CS to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)

131. /[continues reading] ...it is too soon to predict the future of these revived languages, but in some parts.../...I'm reading the last paragraph...the last paragraph.../[continues reading] ...of the world they are attracting precisely the range of positive attitudes and grass roots support which are the preconditions for language survival./ In such unexpected but heart...heart-warming ways might we see the grand total of languages in the world minimally increased.../...ok so I will continue with what I read and match with the title./...Saving a Language....whatit was to revive a language.../...these are the questions?/...questions..errr ok.../[reads instructions to questions/exercise and proceeds to doing the task] ...what does it say?/ It is important that you try to keep to the allocated time for the section.../ok/...which three of the factors are mentioned by the writer?/ Ok.../... ha muitas opções mais só querem três.../ (CS to determine what to read and do/meaning)/...ok let me just read again the questions.../...the possibilities...the options [reads all and underlines part of instructions/factors]/ ...of a language].../

TAM Retrospective

Subject 7 MAD

code: MDD017

132. Primeiro, eu li o texto depois de ter lido o texto tentei perceber, compreender qual é a mensagem que o texto transmite.

133. E como é que conseguiu perceber a mensagem? O que é que fez exactamente?

134. Bem...de fact tratando-se de um texto longo, eu tentei dividir o texto em partes e como que eu divide...na medida que fui lendo o texto descobri que havia um determinado conjunto de situações em que o texto focalizava somente nelas e depois passava para uma outra situação, assim sucessivamente.... e quando eu encontrasse alguma situação palavras difíceis eu não me preocupava em saber essas palavras eu percebia a partir de paragrafo inteiro, investigar essa palavra pode jogar assim. E depois de ter lido...conseguido dividir em o texto em partes ou em mensagens fui juntando as mensagens numa única. Então, para responder o questionário foi necessário eu voltar ao texto confrontar as minhas respostas, ver as sugestões depois voltar ao texto para ver se na verdade suportava essas questões, se havia uma relação entre questões e o texto...sempre tendo como base o texto.

135. E durante a resolução o que é que realmente aconteceu?

136. Bem, eu tive dificuldades porque não é tão fácil perceber a mensagem, porque quase o que o questionário pede errrr ...está lá no texto, so as vezes com o andar do tempo a pessoa pode se perder mas quando vê o questionário pode pensar que trata de outra coisa enquanto trata exactamente do conteúdo do texto, o problema foi esse de penar que de pensar que o questionário está a trazer uma coisa nova diferente que não esta bem clara no texto.

137. Porque pensou nisso?

138. Pensei nisso exactamente por causa daqueles passos que não consegui perceber

139. No exercício ou no texto?

140. Tanto no exercício assim como no texto.

141. Como é que resolveu isso?

142. Fui reler o texto e eu já tinha uma ideia de em que parte a pergunta está enquadrada, já tinha ideia...e era só uma questão de ir rapidamente e ler a pergunta.

143. E esse enquadramento, como é que fez para lembrar que já tinha lido o texto, como é que fez esse relacionamento?

144. Bem...a pergunta em si dá indicações claras que a pergunta está no texto.

145. O quê que tem na pergunta que indica que a passagem está no texto?

146. Existem palavras-chaves, palavras que constam no texto

147. Houve mais algumas coisas que ocorreram no processo da leitura ou resolução do exercício?

148. Durante a leitura não houve muita coisa talvez na resolução do questionerio é que o questionário traz perguntas... perguntas ou sugestões muitos próximas em si de tal modo que pode ser fácil confundir que é esse quando não.

149. O que te ajudou a encontrar respostas?

150. O que me ajudou foi o pressentimento. Pressentir que eu teria encontrado essa parte no texto e também tentar jogar no conhecimento que tenho de fora, entretanto, dentro de mim ouve um conhecimento externo que me diz isso ter ser assim, mas depois de ter percebido o texto tento encontrar esse conhecimento que eu tenho e juntar ao conhecimento que está no texto...a mensagem...depois dai isso me ajudou mais a perceber o texto.

151. Notei que quando estava a ler o texto, por vezes voltou para o parágrafo anterior: Porque fez isso?

152. Fiz isso exactamente para ter a certeza que estava a perceber,,,o assunto....porque nalgumas vezes pensava que estava perdido, podia perder o fio de pensamento que eu tinha sobre a mensagem do texto tinha que perceber se ela continuava dessa maneira e procurava me manter firme que a mensagem é esta e tentar manter nesse ritmo até ao fim do texto.

153. Durante a leitura traduziu algum termo para sua língua?

154. Sim. (Confirmation of use of translation CS/T)

155. Quais são os termos?

156. Por exemplo hum....errr....um que sublinhei...este por exemplo... 'badge' ...tentei traduzir...

157. E Qual foi o termo que encontrou na sua língua ou para a língua para qual traduziu?

158. ... não conheço o termo...não tenho na mente a tradução do termo, só tentei jogar de acordo com...errr... a frase ou o contexto que está e pensei que podia significar por exemplo...pensei que pode-se significar 'assunto' ou como assunto como um 'presente' ou uma 'coisa leviana'....

159. Mais algum outro termo que se lembra?

160. Sim.

161. Qual foi?

162. [interviewee search for term] (shoes problem with short term memory)

163. Se não se lembra não tem problemas....

164. Por exemplo este *heart-warming* tive imensas dificuldades...

165. Como é que você passou essa dificuldade?

166. Traduzi palavra por palavra e...tentei encontrar um meio-termo por exemplo 'uma preocupação'...por exemplo uma instabilidade...uma 'instabilidade interior'. (CS/T to determine meaning/resolve conflictuos info/./confirming predictions)

167. Mais alguma coisa?

168. Bem...de facto depois de preencher o questionário ou responder há sempre aquela sensação de ter escapado alguma coisa, aquela preocupação de que porquê não é assim e principalmente quando se trata de textos assim poucos complexos há sempre aquela sensação... de porque assim e não assim... .

169. Noto que na última resposta trocou a resposta. Porquê trocou resposta?

170. Troquei resposta porque tentei ligar o conhecimento que tenho um conhecimento de vida, digamos assim, as estas coisas que estão aqui.... Primeiro havia posto aqui B...depois percebi aqui que o A diz que há um determinado numero e falantes de diferentes idades ne,...depois eu ver que o texto fala de conservação ou preservação de uma língua.. . então eu comecei a ver que a pergunta é como é que ..como é que...quais são os passos ou as ideias ou as propostas que o autor o autor do texto avança ara se revitalizar uma língua...comecei a ver que ele está a dizer...que ter esses falantes de idades podia ser um factor em si preponderante, mas nesse caso aqui eu vi que podia não ser assim e definitivamente me vi a recuar porque segundo aquilo que eu disse aqui assim porque ele não falou exatadamente...eu não me recordo nalgum momento de o autor de falado de existência desse tipo de pessoas de diferentes faixas etárias, mas sim recordo me de ele ter falado de pessoas velhas, mas isso não quer dizer que ele tenha mencionado pessoas de diferentes faixas etárias...então dai eu consegui chegar a essa conclusão que não tratasse aqui de um pequeno desentendimento...eu não entendi bem aqui ..não podia ser de facto para revitalizar uma língua não preciso

que existam essas pessoas de diferentes faixas etárias, mas sim que existam que existam registros...por exemplos métodos ou meios de conservação ..por exemplo através da educação é uma das formas de conservar a língua de revitalizar uma desde que seja uma educação formal não é...porque ai vai precisar de material documentado para servir como base de estudo....

171. Muito obrigado

Subject 8 YIT

code: YIT024

172. /Can I read the text out loud? [.....]/

173. /Keep on talking, keep on talking.../

174. /...pela primeira vez linguistas colocaram um preço na língua, para salvar a língua da extinção não é barato.../...mas mais e mais pessoas estão a discutir que alternativa...[imperceptible]/...it is the deaf of the communities.../...extinção...morte das comunidades.../...there is nothing here [.....]/ (CS/ST to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions/reach conclusions)

175. keep on talking keep on talking...

176. /...As comunidades vão...vão e voltam... durante toda a história com as suas línguas...com a sua língua.../ mas o que acontece hoje é extraordinário tendo em conta.../...standards... standards.../... a extinção da língua mais com...maior... massiva... de acordo com os melhores...estimam que existe mais de 6000 línguas no mundo e.../...metade destas línguas podem ir morrendo?/(in raised tone)...ao longo do próximo milénio?/. Centenário? Centuries.../...ao longo do século...próximo século... isso significa que são 3000 mil línguas em 1200 meses...vendo que uma media de... as línguas vão morrendo ...uma media de... de duas semanas, ok.../ (CS/ST to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)

177. /...Como nós sabemos de duas ou três décadas linguísticas de todo o mundo têm recolhido... informações comparativas.../ (CS/ST to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)

178. /...se eles encontrarem uma língua só com alguns falantes e ninguém se importa ou se preocupa em passar a língua para...[door noise] as crianças.../...eles concluem que a língua está para...está para morrer ou que está perto de morrer.../...chegamos a conclusão que se uma língua tem menos de 100 falantes significa que não vai durar muito tempo.../ (CS to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)

179. /Hummm...survey... survey... [reads in english]...in 1999 a survey shows that 97 per cent of the worlds languages are spoken by just 4% of the people...[imperceptible]/...Estudo?/...mostram que 90%...97% das línguas no mundo apenas são faladas por 4% das pessoas!/?... Será que é tarde!!! para fazer alguma coisa para ajudar?/ ...tantas línguas em que os falantes podem ser poucos ou velhos ou onde a comunidade está bastante ocupada para tentar sobreviver para se preocupar com as suas línguas[.....]/ (CS to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)

180. keep on talking keep on talking...

181. /Ok.../...existem muitas línguas... que não estão na posição tão séria.../... no momento existem línguas... que estão em perigo?/.../...e há coisas que se podem fazer para dar um novo recomeço para estas línguas e isso se chama revitalização./ (CS to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)
182. /Como um.../(CS to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions) /reads text] ...once a community realizes that its language is in danger.../[back to portuguese]... a partir do momento que a comunidade errr... descobre...realizes, finds out...(CS/T to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)... que a sua língua está em perigo pode começar a introduzir medidas que podem ...revitalizar a língua...no no...genuinamente?/...a comunidade a própria comunidade deve ter vontade força de vontade para salvar a sua língua.../[long pause]/...dinheiro/ (CS to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)
183. /...Importante...the culture?... é uma cultura que tem...que faz parte...que é parte...faz parte?/ (CS to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions) /Respect...to have respect for a minority languages... respeito pelas línguas minoritárias...(CS/T to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)/...é preciso ter fundos para apoiar em recursos, ter materiais e professores...linguists...e é importante que eles sejam linguistas...(CS/T to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)... para terem a capacidade de porem a língua em papel.../...o mais importante é documentar a língua, grava – la, analisá-la, escreve-la... as pessoas devem ser capazes de ler e escrever para eles puderem.../...se eles se eles querem que a sua língua tenha um futuro na civilização...computa...computy...compu-ta...computadorizada?...computer-.....literate...que.....tem informação?...computadorizada...educação computadorizada?... (CS/T to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)
184. /Será que é possível salvar só alguns milhares de línguas?/ (CS to determine meaningpredicting or guessing meaning/confirming predictions/question oneself) [low and questioning voice]/...just like!/[whispering]... é possível de um momento para o outro?/ Sim, se o fundo estiver disponível./ (CS to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)
185. /...Não é barato hummm levar linguistas para o campo, treinar analistas locais ajudando a comunidade com recursos de línguas e professores, compilar gramáticas e dicionários, escrever materiais para uso para uso em escolas..../... it takes time takes time.../(CS to determine meaningpredicting or guessing meaning/confirming predictions/reach conclusion)....papel necessário...leva tempo, muito tempo....para revitalizar uma língua/...emprego.../...em vias de extinção [dubious shaky voice]...as condições variam...variam bastante e é difícil generalizar, mas o valor de cem mil dólares por ano por língua...que não pode...cant not be far from the true...[impercetible]...(CS/T to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)/...se nós dedicarmos essa quantidade de dinheiro eesforço..[mumbles] por volta de três anos para cada uma das três mil línguas estaríamos a falar de 900 milhões de dólares aproximadamente... (CS to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)
186. /Existem casos famosos que ilustram o que é que pode ser feito.../...Welsh...welsh... escocês? Escocês(CS/T to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions) ...alone among the Celtic languages.. / ok então o escocês é uma das línguas Celtas.... (CS to confirming predictions) [goes back to

reading text] /...showing the signs of real growth...é um dos poucos casos... que mostram um sinal de crescimento em de caminhar para vias de extinção...dois actos (Acts)...duas Leis? (CS/T to determine meaning/resolve conflictuos info/predicting...or...guessing...meaning/confirming...predictions)/...a língua protege o status? /Status...status...status...[reading]...and its presence is increasingly in evidence wherever you travel in the world.../ (CS/T to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)

187. /...do outro lado de mundo...Maori na Nova Zelândia tem sido mantido pelo sistema que é chamado de ninho de língua!?...language nests...(CS/T to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)/...e o primeiro foi introduzido em 1982...isto é organizações que provem?/...não.../ [read text]...provide children under five with a domestic setting in which they are intensively exposed to the language...ok essas organizações...hummm...errr...[mumbles]...estas organizações...tem o trabalho de expor as crianças.../...em menos de cinco anos à um ambiente em que são intensivamente expostos a língua.../the staff are all Maori speakers... a que...staff...a equipa...os ajudantes...são todos falantes de Maori e são da comunidade local(CS/T to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)/ ...a esperança é que as crianças manterão...Moari skills...com a capacidade de falar Maori mesmo depois de deixar os seus ninhos [impercetible]...em casa e na medida que eles vão crescendo eles irão tornar-se role models...modelos...to new generation of young children...role models...eles se tornarão modelos para a nova geração de crianças... existem casos como estes em todo o mundo.../ (CS/T to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)

188. / ... [slow pace] ...e quando reactivar uma língua é associado a um grau de uma autonomia política... /o crescimento pode ser striking...striking...striking... (CS/T to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)/... as shown by Faroese [coughs] [in a almost a whisper] striking...striking...striking... um desafio? Desafio?/ (CS/T to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)/...como é mostrado pelo Faroese falado nas ilhas Faroe depois que os [impercetible]...receberam autonomia...measures...autonomy... uma pequena medida que é autonomia da Dinamarca... (CS/T to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)/

189. /...Na Suécia...Switzerland...Suecia(T to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)... o Romansch...tem tido err... algumas dificuldades... falada ...[mumbles and whispering]...em cinco diferentes dialectos.../...bit small and diminishing (CS to determine meaning/ concluding and or confirming predictions/meaning)/...as young people left their communities for work in the German-speaking cities...quem?/ (CS to resolve conflictuos info/question oneself)...então... como as pessoas jovens foram deixando as suas comunidades para trabalhar em cidades em que se fala alemão foi influenciar no dialecto Romansch.../...bom... e foi criando cinco dialectos diferentes.../...e a solução criada em 1980 foi criação de uma língua...unified... escrita e unida e de todos esses dialectos.../ (CS/ST to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)...o Romansch-Grischum...que se tornou a sua língua oficial nalgumas partes da Suécia.../ está ser muito usada...being increasingly used and spoken from a radio and television.../ok está língua que ganhou uma oficialização na Suécia...pouco a pouco tem sido usada na rádio e na televisão...uma língua pode ser trazida...brink of extinction..brink of extinction...uma língua pode ser trazida ...from the brink of

extinction...[whispers]...da extinção...recuar da extinção? [dubious voice]...da extinção...ok.../(CS/T/ST to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)

190. /...[fast reading pace] ...the Ainu language of Japan after many years of neglec and repression, had reached a stage where there were only eight fluent speakers left, all elderly.../...a língua Ainu do Japão depois de muitos anos de negligência e repressão chegou a um ponto em que só era falada fluentemente por 8 falantes...todos mais velhos...velhos...mais velhos, não...todos velhos.../so que...new government policies brought fresh attitudes...(CS/T to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)...so que novas políticas governamentais trouxeram novas atitudes e interesses positivos na sobrevivência...survival...(CS/T to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)/...several semi-speakers...[whispering]... muitos semi-faladores? (CS/T to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)/... pessoas que ...sem vontade der falar Ainu por causa das atitudes negativas de falantes japoneses foram...prompted...prompted...to be prompted to become active speakers again...there is a fresh interest now and the language is more publicly available than it has been for years...prompted...[whispering]...prompted...to become active speakers...[imperceptible]...falador...existe um novo interesse agora que a língua está publicamente disponível...agora que está mais publicamente disponível do que estava há anos atras.../(CS/ST to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)

191. /...se boas descrições e materiais estiverem disponíveis até as línguas extintas podem ser resurrected...[whispers resurrected]... podem ser trazidas da beira de extinção.../(CS/T to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)

192. /...Kurna from South Australia..Kurna no sul da Australia (CS/ST to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)...é um exemplo... está língua estava extinta for about a century...estava extinta a mais ou menos um século mais foi bem documentada(CS/T to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)/...então quando um movimento forte cresceu para renascer...revival...renascer... reavivar esta língua foi possível reconstrui-la.../ (CS/ST to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)

193. /...A língua...[reads text]...the revised language is not the same as the original, of course [telephone rings] (CS/T to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)/... It lacks the range that the original had, and much of the old vocabular...vocabulary...But it can act as a badge of present-day identity for its people.../a língua que nasceu não é a mesma que a original..Claro! It lacks the range...não tem o mesmo alcance que a original tinha [door noise] (CS/T to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)/...o vocabulário antigo ...badge of present-day identity ...acho que ummmmm...elo de ligação..acho que um 'badge' elo de ligação como...present-day identity... para identidade da sua população...das pessoas...[goes back to text]/ (CS/T to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)/...and as long as people continue to value it as a true marker of their identity, and are prepared to keep using it, it will develop new functions and new vocabulary, as any other living language would do.....diz que as que as pessoas continuam...continuam a valorizar a língua como parte de sua identidade, parte importante da sua identidade.../a língua poderá desenvolver novas funções e novo vocabulário como qualquer uma outra língua...(CS to determine meaning/resolve conflictuos info/predicting or guessing

meaning/confirming predictions)/... é muito cedo para prever o futuro destas línguas que foram reactivadas, mas
 algumas partes de mundo...they are attracting...eles estão a atrair precisamente...(CS/T to determine
 meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)/.../the range of positive
 attitudes and grass roots support which are the preconditions for language survival [coughs]/...na parte do
 mundo...algumas partes do Mundo atraem precisamente grande...grande atitude positiva...grass roots...raízes?/
 [whispering]...grass roots...são as pré – condições para survival... sobrevivência de uma língua [.....]/ (CS/T to
 determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)

194. Keep on talking ...

195. /...[reads text] In such unexpected but heart-warming ways might we see the grand total of languages in the world
 minimally increased.../...Aqui...a maioria...a maioria das línguas no mundo crescerem minimamente...increased
 ...aumentar? ...aumentar minimamente...?/...ok.../(CS /T to determine meaning/resolve conflictuos info/predicting or
 guessing meaning/confirming predictions)

196. /I'm suppose to...ler o texto e entender a questão, as respostas, línguas relacionadas, a população indígena...livros
 que mostram o desenvolvimento histórico de uma língua...ajuda na existência de uma língua relacionada...[relates
 questions to statements and instructions and proceeds to task].... (CS/T to determine meaning/resolve conflictuos
 info/predicting or guessing meaning/confirming predictions)

Subject 9 DIT

code: DIT026

197. /Humm...Saving Languages...errr.errr. fortifying.../...pela primeira vez linguistas colocaram preço na língua...errr...
 para salvar a língua da extinção que não é barato.../errr... mas pessoas errr...are... estão a argumentar que a alternativa
 é a morte das comunidades...hum!...hummm o que existe não é nada comum uma unica língua morrer...hummm
 errr.../(CS/ST to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)

198. /... as comunidades tem vindo e ido errr... pela história e com elas a sua língua...hummm... mas o que está
 acontecendo hoje é extra...extraordinary ...extraordinario (checking pronunciation in L1)/... julgado pelas ...pelos
 padrões do passado...a língua...a extinção da língua numa... numa escala massiva e de acordo com algumas
 estimativas há cerca de 6000 línguas no mundo.../ ...destas, metade estão a morrer...vão morrer no curso do próximo
 século...errr...three thousand ... são 3000 mil línguas em 1200 meses... numa média há línguas a morrer em algum
 lugar do mundo a cada duas semanas ou mais.../como nós sabemos e no curso do passado...dois... duas décadas ou
 três décadas os linguistas de todo mundo têm vindo...gathering comparative data/. não sei o significado de
 gathering aqui.../tem...tem dados comparativos...talvez tenham aplicado tenham iniciado dados comparativos!.../
 (CS/ST to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)

199. /hummm...if they find a language...e se eles encontram uma língua com poucos falantes... foi deixada e ninguém se
 preocupa a passar a língua para filhos eles concluem que a língua está ligada.../...errr...está ligada a mor...is
 bound...está ligad...não...is bound a morrer...errr...a língua pode morrer logo...and we have to draw...e nós temos que
 desenhar...acho que não significa desenhar isto...caso?/...hummm errr a mesam conclusão se a língua tem menos do
 que 100 falantes... Isto não é apropiad...likely.../isso não é errr to like very longo!/?...isso não é propenso para durar

muito tempo...acho que não fica muito bem propenso aqui...likely... /...around 1999...em 1999 nós...demonstra que 97% das línguas de mundo são faladas por apenas 4% das pessoas.../...é tarde de mais para fazer alguma coisa para ajudar muitas línguas como de falantes que são poucos ou muito velhos.../...e onde as comunidades... são ocupadas demais para tentar...err... cuidar da sobrevivência...to survive...to care...sobrevivência...cuidar da língua deles.../(CS/ST/T to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)

200. /...mas muitas línguas não são...não estão... em posição serias...often... frequentemente onde as línguas são seriamente ... endangered ...em perigo?/... há...há coisas que podem ser feitas para dar nova vida para elas... isso é chamado de revitalização...revitalizacao acho que é trazer à vida err...à língua/...err hoje a community... uma vez que a comunidade percebe que a língua está em perigo...it can start... pode se apresentar...podem ser apresentadas medidas nas quais can genuinely revitalize...ham...pode genuinamente voltar a vida.../(CS/ST/T to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)

201. /...the community...a própria comunidade...the community itself...err...mostra... deve querer que a sua língua seja salva...must want to save its language...deve querer salvar a sua língua...the culture culture of... a cultura da qual it is a part...a cultura da qual é uma parte deve precisar ter um respeito...the culture of which it a part must need to have a respect for a minority language...a cultura da qual...da qual é uma parte deve precisar de um respeito pelas línguas faladas pela minoria...minority...ou minority languages...não percebo isso de minority languages? (CS/ST to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions/to confirming ack of understanding)/...línguas faladas ela minoria ou consideradas pequenas ou com um inventario de palavras pequeno!!!...entao...needs to be funding...há necessidade de ser ...err...fundados cursos de apoio, materiais e professores.../ e há necessidade de...there are need to be linguists... é preciso de linguistas to get on the basic task...para a sabática de por a língua no papel...the language down on a paper....pt the language down talvez seja.../err...err...subscrever a língua, normatizar a língua..de facto há línguas que não estao ainda registadas numa gramatica,/...so that is the bottom line..então essa é a linha de fundo...é a linha de partida talvez...getting the language documented ...a língua...conseguir que a língua seja documentada, analisada, gravada...written down...err..., escrita.../...people must be able to read...as pessoas devem ser capaz de ler escrever se elas é sua língua...estão...are to have...are to have...estão para ter o futuro num...numa civilização computer-literate...increasingly...numa maior...numa maior...lit...computer-literate...computad...uma civilização letrada... computadorizada?...computer-literate civilizations...a computadorização...letrado...literate...letrado e computadorizada...(CS/ST/T to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)

202. /([reads texts aloud])...But can we save a thousand languages...nós...nós ... podemos salvar most...poucas... milhares de línguas...just like... desta forma?/...err...sim se o desejo e and funding are available...e fundamentos estiverem disponíveis e se não são baratos conseguir linguistas dentro de campo...err/...training local analysts...treino de analistas locais para apoiar a comunidade com ...err...recursos de línguas e professores [raised tone]...recursos linguísticos e professores...compiling grammar and dictionaries.../err...há uma palavra em português como compiling, compilar...compilação de gramaticas e dicionários err (CS/T and cognate to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)...writing materials... escrever materiais para uso nas escolas... e isso leva tempo...muito tempo lots of it...muito tempo para trazer `a vida uma língua em perigo...ou uma língua em extinção ou em risco de extinção.../...the conditions... as condições variam tanto que é difícil generalizar,

mas a figure of ...uma figura não acho que seja figura aqui! parece um falso-combinado (alludes to grammar/syntax; false-friend in target language)/...a figure of 1000 thousand dollars a year per language...de 100 mil dólares por ano por língua não podem...não pode estar longe da verdade...if we devoted that amount..... se nós...devoted?...se nós nos devotamos.../não sei se existe isso em Portugues...devoted...errr/... criar a quantia do esforço...talvez se nós contarmos o esforço que é contido... a mais de três anos para cada 3 mil línguas nós err... nós estaríamos falando de cerca de 900 milhões de dólares.../...there are some famous cases... há casos famosos nos quais ilustram o que pode ser feito.../(CS/ST/T to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)

203. /...Welsh, welsh...deve ser algum povo que mora na Europa, talvez!.../.../(CS to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions) [goes back to text and reads aloud] ...Welsh alone among the Celtics languages...do...do.../[rereads slowly] ...Welsh alone among the Celtics languages...err...err.../... sozinha apenas entre as línguas Celtas... não é.../is not only stopping its steady decline...não está parar com a sua com o seu declino estável em direcção a extinção, mas está apresentado sinais do seu real crescimento.../ (CS/T to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)

204. /...duas línguas...two language Acts...duas acções da língua protegem o status da língua Welsh.../não sei como se diz Welsh em português...(CS/T to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)// [reads aloud]/...in its presence... ah! [showing acknowledgement] is increasingly in evidence wherever you travel in Wales.../...acho que Welsh deve ser da Inglaterra porque Wales é Galês na Inglaterra...acho que enquanto os actos das duas línguas protegem a sua presença...agora essa presença está aumentado...está em aumento onde quer que você viaje em Gales...(CS/T to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)

205. /...No outro lado do mundo...Moari na Nova Zelândia tem sido mantido pelo sistema...of so-called...da chamada línguas de ninho...primeiro...primei...primeiramente introduzida em 1982...a agudizações das quais provem que oferecem a criança abaixo de cinco anos como uma definição domestica na qual elas são expostas intensivamente a língua...expostas de modo intensivo a língua.../ onde estão o grupo dos trabalhadores são todos falantes de Maori...do Maori da comunidade local.../a esperança é que as crianças irão manter as suas habilidades Maori vivas após deixarem os seus ninhos e que elas...that they grow...e assim que elas crescem...que ficam mais velhas elas irão se tornar...in turn become...turn e become parece a mesma coisa!.../...hummm...onde irão virar modelos...papeis de modelo para a nova geração de crianças mais jovens...de crianças jovens...para a nova geração de crianças mais novas...hummm.../there are case like these...há casos como estes em todo mundo... e quando reviver...o revivimento (Brz...Port) da língua é associado com o grau de autonomia política o crescimento pode ser especialmente striking...striking...errr...striking...acho que strike é luta...não!...greve?/...não sei como traduzir striking aqui/...strike...striking...o crescimento pode ser especialmente difícil, talvez!/? Como mostra...como mostrado pelo Faroese...falado no Faroé...nas Ilhas Faroese... após os Islã... Islandeses/ [confuses Island with people from Iceland; Islandia in Portuguese] Islandia apos os Islandeses receberem a medida de autonomia de Dinamarca/ (CS/ST/T to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)

206. /...Na Suíça...Romancsh was facing... estava encarando uma dificuldade...uma situação difícil...spoken in five diferente dialects...faladas em cinco línguas diferentes...em cinco dialectos diferentes com pequenos e diminishing

numbers...com pequenos e números diminutivos numeros...diminishing... e números de deminutivos...em números menores...parecem sinonimos mas coisas diferentes! /...small and diminishing numbers...é...as young people left there community for work...como as pessoas jovens deixam o seu trabalho... sua comunidade para trabalhar em cidades falantes do alemão... /... a solução aqui era a criação em 1900.../nos anos 80 da unificação...of a unified written language...de uma língua escrita unificada para todos os dialectos...Romansch Grischun as it is now called... ou Romansch Grischun como é agora chamado tem um estado oficial no norte...em partes da Suíça e está sendo...está...is being increasingly...está aumentando o seu uso e na forma falada na rádio e televisão...a língua pode ser trazida de volta da sua...from the very brink of extinction...da sua...não sei o que é brink...da sua extinção muito.../[imperceptible]/...da sua extinção mesmo que esteja extinta, talvez! /...mesmo que esteja extinta.../[goes to text and reads aloud]...the Ainu, language of Japan... a língua de Japão Ainu apos muitos anos de negligencia e repressão...de desprezo e repressão...reached a stage...tenha alcançado um estagio onde elas estavam...ou onde haveram (wrong pronunciation) oito...oito...apenas oito falantes.../...havia apenas oito falantes fluentes...right! /...all elderly...onde só sobraram oito falantes fluentes todos velhos...err... /...e no entanto as politicas governamentais trouxeram atitudes... novas atitudes e um interesse positivo na sobrevivência.../ (CS/ST to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)

207. /...[reads text aloud]...several semi-speakers...semi-falantes? /...pessoas que se tinham tornado unwilling...não tinham mais desejo de falar Ainu por causa das atitudes negativas dos falantes japoneses...were prompted... estavam err... dispostos a se tornar activos novamente... /.../(CS/T to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions) [back to text]...there is fresh interest...há novo interesse agora...err...há uma iniciativa...um interesse agora e as línguas estão mais publicly...publica...pu...estão mais publicamente disponíveis do que foram há uns...foram ha anos it has been for years porque no fundo tem sido lutar por hours.../ (CS/ST to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)

208. /...[reads aloud next paragraph]...If good descriptions and materials are available...se boas descrições de materiais estão disponíveis ate mesmo línguas extintas podem ser ressuscitadas..Kaurna da Australia do S...no sul da Astralia is...é um exemplo...esta língua tem sido extinta [wrong tense]...ou foi extinta [correction of wrong tense] por cerca de um século e foi.../(CS/ST to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)/...but had been quite well-documented...e foi humm err... bem documentada...e foi razoavelmente bem documentada... por isso quando um movimento forte...um movimento forte cresceu para sua sobre...sua ressusci...sua reavivação... ou a sua ressuscitação... /... foi possivel reconstruí-la...the revised language...a língua revista não é a mesma da original, claro! [shows agreement] /...it lacks the range... falta a...falta err...carece da the range...agh? /...the range that the original had...hummm...err...[swear word]... falta a cadeia que a original tem a cadeia...não sei bem se é cadeia ou range... que a original tem e ou possui...e and much of the old vocabular...e muito do seu vocabulário antigo / Contudo pode ser sem dúvida um acto dos presentes dessas pessoas.../(CS/ST/T to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions) / [reads text]...but it can nonetheless...mas pode ser contudo [dubious] /...não sei se nonetheless é contudo! /...pode ser sem duvida! /... Não sei o que é nonetheless e.../(CS to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions) [reads text] /...nonetheless act as a badge...the badge? Badge! Beige? / Não sei o que é badge... /...nonetheless act as a badge of present-day identity...num dia uma identidade para estas pessoas... /...esta frase não consegui e o que é nonetheless pode ser um acto...sem duvida um acto...[mumbles] (CS/T to determine

- meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)/...badge of present-day dos presentes dias para estas pessoas...../(T to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions) [reads part of text aloud]/...and as long people continue to ...enquanto que as pessoas continuam a valorizar...a valoriza-la como verdadeiro marcador...marco.../não sei se posso traduzir marker como marcador...marcador da sua identidade ou factor, não sei!/.factor da sua identidade estão preparadas mante-la mante-la e para continuar a usa-la..it will develop.../... e será e irá desenvolver novas funções e novo vocabulário como qualquer outra língua...living language...mudou!.../....como qualquer outra língua viva faria.../ (CS/T to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)
209. /([moves to next paragraph and reads aloud parts])...it is too soon...é muito ...hummm...soon...é muito tarde...é muito tarde para predizer.../...agora fiquei na duvida!/. ...Soon?... ../(CS/T to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions) [reads text again]/...It is too soon to predict the future...é muito cedo?!/.como é que com uma palavra tao simples fico na duvida se significa cedo ou tarde!!![shows frustration][re-reads]/...It is too soon to predict the...é muito cedo para predizer o futuro dessas línguas re...revividas.../...acho que é muito cedo pra predizer o futuro destas línguas revividas.../(CS/T to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions) [finally gets the meaning through context]/...but in some parts...mas nalgumas partes do mundo elas estão a atrair precisamente uma cadeia de atitudes positivas e grass roots...e raízes que apoiam...and grassroots support...e raízes que suportam, which are the predicaonditions...apoiam, suportam as pré-condições para sobrevivência da língua.../ [back to text, read aloud]...In such unexpected...em tais inesperadas...but heart-warming ways, ways might we see the grand total...em tais inesperadas e heart-warming ways?/...formas de heart-warming?!.../...podemos ver a totalidade...a grande totalidade das línguas no mundo...minimally podemos ver... podemos ver a grande totalidade das línguas no mundo tem aumentado in such unexpected but heart-warming ways...heart-warming/... talvez seja alguma coisa optimista...ou coração...não sei... ou talvez seja um ponto de vista optimista.../...heart-warming ways might we see... talvez nós poderemos ver uma grande totalidade das línguas no mundo talvez aumentadas... sem muitas expectativas de uma forma inesperada e mais optimista.../...não sei muito das expectativas mas de forma...um ponto de vista optimista?!/. Acho que é...talvez um dia as línguas vão minimamente aumentar ...as línguas do mundo.../(CS/ST/T to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)
210. /...agora é para expresser [.....] (CS to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)
211. Keep on talking, keep on talking...
212. /...[participant reads instructions aloud from task sheet] ...and repeats statements/choices after reading the question and makes choices....[.....] (long silence)/
213. Keep on talking, keep on talking
214. [participants re-reads the statements again slowly and makes choice, G and translate some...]

215. /...Saving Languages... acho que é isso...cuidar da língua deve ser...saving, saving tem a ver com guardar.../...significa que quando nós vamos ao banco...we have our savings...entao tem as minhas poupanças então saving, care... cuidando talvez seja isso...cuidando da língua.../.../CS/T to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)/[goes to texto and reads aloud]...for the first time linguists have put a price on language.../... os linguistas tem dado valor a língua a língua...nesse caso temos aquierr.../err... to save a language from extinction isn't cheap...isnt cheap.../...este cheap deve significar não é fácil, ok /...errr...cuidar da língua, salvar a língua da sua extinção não deve ser fácil...ok.../...the people are arguing [read acting] that the alternative is the death of the community...as pessoas estão... people are acting.. as essoas estao a discutir que a alterantive é a morte das comunidades ...será que isso mesmo – morte das comunidades!/?...porque é que as pessoas pensariam assim!/?...arguing...discutem, arguing discutem ok talvez quira dizer as pessoas discutem que a alternativa seja a morte das comunidades ou desaparecimento das comunidades ok.../CS/T to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)
216. /...[moves to para 1 and reads aloud]...There is nothing unusual about a single language dying...ok/ ...Não há nada não err... unusual...nothing unusual...não há nada não usual sobre um desaparecimento.../...single language/... um desaparecimento muito simples de uma lang. de uma língua...deve ser isso.../CS/T to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)/[reads next line aloud]/...Communities have come and gone gone throughout history, and with them their language. But whhat is happening today is extraordinary... jugdged.../...[struggle to read]...deve...ser...isso...mas...o...que...acontece...hoje...é extraordinário...extraordinary...extraordinary...ok é extraordinario?/... julgado pelo pelas standards of the past, standards, standards, standards, o que é isso?/ O que quer dizer standards? /Errrr... escadas, tem haver com escadas, tem haver com os graus talvez isso...para dizer standards of the past...pelos graus do passado, sera que é isso?/...esse standard aqui...deve ser...tem a ver com outros.../CS/T to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions) [imperceptible]/...it is language extinction in a massive scale!!!/ Parece ser uma pergunta isso it is language extinction in a massive scale.../ok/...é a extinção da língua numa escala massiva... ok deve ser isso.../.../CS/T to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions) [reads texto aloud]...according to the best estimates thera are some six, six ok seis com três zeros...six thousand yah é isso six thousand languages in the world.ok.../...estima-se que haja 6000 línguas em todo mundo...of these half are going to die out in the course of the next century.../... no próximo século next century quer dizer no próximo seculo, seculo of those.../ these plural então?/ ...destes cerca de metade disso entao metade de 6 mil nesse caso it means quite three thousand languages are going to die...that's ok/... no fim já vem that's three thousand languages in one coma two hundred months?/ O que isso quer dizer?.../.../CS/T to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions) [re-reads text]...that's 3000 languages in...hummm!!!/... quer dizer em três mil línguas...quer dizer são são 3000 línguas em 1200 meses.../.../CS to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions) [goes back to text]...On avarage, there is a language dying out somewhere in the world...on avarage, on avarage ...o que é isto?/ Quando fazemos cálculos matemáticos temos que ter mínimos, ok ok...avarage, avarage deve ser média, ok...em média há...hummm errr there is a language dying out...out?/...dying out, dying out isso será um frasal verb, mas não

temos verbo aqui!!!.../...there is a language dying out...é frasal verb [reader confirms his prediction]...dying out significa...there is a language dying out...significa que há uma língua extinguindo ou acabando ou perecendo somewhere.../...em algum lugar do mundo em cada duas semanas...Or so...ou mais talvez seja isso!/...Este So...ou mais...ok.../(CS/T to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)

217. /...[reads next para and ranslates]...How do we know?/...Como sabemos, ok...../(T to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)/... In the course of the past two or three decades...in the course, in the course, course...course é curso...será que é curso?/ Se não for...no decurso deve ser...no decurso of two or past three decades...no decurso dos dois...no passado dos dois past two.../...então passados duas ou três décadas...linguists all over the world have been gathering data...data?/...Data...não entendo não tem nada com ser dia...having gathering data...gathering significa reunir, então tem reunido data comparative data...que significa isso...data...comparative data...deve ser dados comparativos ...é isso...../(CS/T to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions) /[reads text]...If they find a language with just a few...few eu tenho tido problemas com este few porque a few a few é coisas não contáveis ou coisas contáveis tem few? /O que é que é a few?/...agora vamos la ver o conteúdo...//(CS to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions) [re-reads text]...If they find a language with just a few speakers.../ok...speakers...contável entao a few deve ser alguns.../...if they find...se encontram a língua com alguns falantes...existentes and nobody is bothering to pass the language onto...bothering...nobody...is bothering...bothering...deve significar ninguém se preocupa em passar a língua para as crianças e conclude that language is going to die.../...language is bound, language is bound...bound o que é bond...language is bound to die...será que isto significa que a língua está está doentia?/...bound, bound...não não posso confundir bound com wound...wound pode ser ferida agora bound bound bound significa estar quase para morrer?/...bound to die out...é uma frasal verb também...die out então quase morrer mas cedo...esse bound aqui deve quase.../...and we have to draw the same conclusions if a language has less than 100 speakers...less than então yah entao que podemos concluir que quando a língua tem menos de 100 falantes...it is not likely to last very long...likely?/ Likely?/ Likely, esse likely significa é de gostar?/ Não ...de parecer...it is not likely to last.../ ah... ok então tem de ficar parecer sim...it not likely to last very long...isso todo o conteúdo significa nao parece, então esse likely deve ser parecer/ não parece que está para ficar por muito tempo.../In 1999 survey sows that... /...survey? Survey? /Survey serão pesquisas?/ Acho que sim, survey ..pesquisas mostram... that 97% of the worlds languages are soken by just 4% of the peole, ok tam bem é isso.../ (CS/T to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)

218. /[starts new para aloud]...It is too late to do anything to help many languages...it is too late...too late...é tarde é muito tarde fazer alguma coisa para ajudar muitas línguas...../(CS/T to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)/...where the speakers are too few.../...de novo tenho essa palavra few...few speakers, mas agora estou a ficar com problemas...esse few .../...o primeiro few é uma determinante, é few speakers, agora aqui tenho too few deve significar o too também deve ser determinante aqui...ahh muitos, too few...ya muito poucos nesse caso...yah então a few speakers la [cataphoric reference] significa poucos falantes...então aqui muito poucos falantes/ ...all too old, significa muito velhos falantes?/ Muito velhos...será que neste lugar não se nasce pessoas?/(CS/T to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions) (cultural reference, co-text)/...será que este too old...vou ter que ler de novo isto

[reader decides to re-read]/...It is too late to do anything to help many languages, where the speakers are too few or too old...humh/...are too few or too old...deve ser isso...são idosos os falantes são apenas idosos...ahh/...em no caso em que haja uma língua e aquela outra língua e essa língua que tem poucos falantes seja essa que esta a desaparecer.../... and where the community is too busy just trying to survive to care about their language... onde a população está muito ocupado tentando sobreviver do que tomar cuidado da sua própria língua.../...é isso aí mesmo.../but many languages are not in such serious position...humhum.../Often where languages are seriously endangered, endangered, endangered...often...muita vezes, muitas ou varias vezes...often.../bem.../How often do you go...?/... quantas vezes você vai...?/ Agora esse often significa varias vezes?/ Sera?/ Often...muitas vezes ok acho que é isso...muitas vezes onde línguas estao...são endangered?!/ Quer dizer emperigados [invented word in portuguese]...estao em perigo(CS/T to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions) [corrects himself but keeps wrong lexical item] ...mas pode ser emperigado...estao em perigo.../...there are things that can be done to give a new life to them./ It is called revilization [misreads revitalization]...ok...entao...ok.../re-reads to confirm comprehension]...there are things that can be done to give a new life to them./ It is called revitalization...o processo de ...quando as línguas estão num processo de desaparecimento o que se pode fazer... /...there are things that can be done to give new life to them...esse them refere-se a línguas [referencing] entao alguma coisa que pode ser feita ara que lhe dê vida e esse processo chama se revitalização...é isso ok.../(CS/T to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)

219. /[moves to read aloud entry of next para]... Once a community realises that its language is in danger, it can start to introduce measures which can genuinely revitalize./...Ahhh...ok entendi mas aqui...genuinely [struggles to pronounce; repeats]...genui...genuinamente, será isso?/...it can start to introduce... as comunidades quando vem que as línguas estão em perigo podem começar a introduzir medidas que podem genuily...podem revitalizar genuily [again struggles with word]...que significa isso de genui...[reads slowly to confirm pronunciation]...genuinely...genuinamente.../...hummm...acho que não estou a entender isso, precisaria de um dicionário, mas quando uma coisa é tornada genuína, a coisa é tornada uma coisa genuína uma coisa original, ok então significa que podiam ser revitalizadas tornado-as...originais.../ (CS/T to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions) [continues Reading aloud] ...The community itself must want to save their language...ok é uma afirmação!(CS to determine meaning/resolve conflictuos info/confirm meaning)/The culture of which it is a part must need to have a respect for minority languages, ok .../[reader re-reads slowly]/...the culture of which it is a part..a cultura...the culture of which it is a part must need to.../ nao estou a conseguir entender isso.../...a cultura...the culture of which...a cultura de quem? Of which...de quem...it is a part...de quem isto faz parte ok...de quem a lingua neste caso, faz parte dev as much deve procurar... must need to have a respect for minority languages...deve procurar ter respeito pelas linguas minoritarias, sera que é isso?/(CS to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions) [re-reads once again] ... must need to have a respect for minority languages...deve ser isso...procurar ter respeito pelas línguas minoritárias...minority, minority que significa minority languages, language em Ingles começamos com...temos que ir para lingua depois minority = línguas minoritárias, acho que é isso.../(CS to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions) [reader shows awareness of collocation: the inverse positioning]...[back to texto and read aloud]/...There needs to be funding, funding, funding, funding, que é isso?

Funding deve ser financiamento...deve haver...there needs to be funding...deve haver financiamento to support isso mesmo temos support de suportar para suportar cursos ..courses são cursos para suportar cursos, materiais e como temos la teachers então são cursos.../...há uma necessidade de haver financiamento para materiais e professores and there need to be linguists linguistas to get on... é uma phrasal verb to get on...não vai significar não é get in é claro!/...get on deve...how are you getting on?/ Será que não estou a confundir a expressão quando alguém quer...get on = continue, get on carry on get on, acho que tem a ver com isso to get with the basic task of putting down the language down on paper.../...agora esta expressão aqui ok is continuar com o trabalho básico de por a língua down on paper [raised tone] esta expressão aqui: down on paper?/ Será escrever...down on paper escrever materiais...mas não significaria isso uma coisa tão simples assim [doubts meaning]...acho que dizer tem a ver com revitalizar mesmo [match with texto theme] porque quando temos get on with the basic task/... get on significa continuar com o trabalho básico of putting the language down on paper deve ser down on paper se uma coisa está em papel é porque tem valor então deve ser por a língua no seu verdadeiro valor haver linguistas e continuar o trabalho básico de por a língua no papel, é isso.../...that the bottom line [x3] bottom line essa expressão epa!...bottom line that's the bottom line...essa expressao onde já vi isso?/ Essa expressão já a ouvi na linguagem falada...that's the bottom line esse é o principio, acho que dizer isso esse é o principio...essa é a coisa principal, deve significr isso/ [uses prior knowledge, familiarity: schemata] ...getting the language documented...é isso mesmo...isso faz me voltar para la onde tenho gettin on with the basic task of putting down the language on paper.../...entao language documented significa por a lingua com seu verdadeiro valor, acho que é isso.../... recorded?, ahhh recorded então significa escrever ...nao é isso!/ Com esse recorded é gravada, analisada e written down escrita...[reads ext aloud]...people must be able to read and write if they and their language are to to have a future in an increasingly computer-literate civilization.../Eishhhhh!!/ computer-literate civilization [reads syllable by syllable]...ahh ok deve ser civilização literária que vem dos computadores...essa ligação mas ok dizem me tentar ler de novo/ [reader decides to re-read passage]people must be able to read and write if they and their language are to to have a future in an increasingly, increansingly ok no crescente.../ok pessoas devem ser capazes de ler e escrever if they are to have ok se querem que if their language are to have a future, /ok/ se querem que a sua língua tenha o future nesse processo de civilização literária crescente que tem a ver com computadores, deve ser isso.../ (CS/T to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions/ask oneself questions)

220. /...[reads aloud start of next para]... But can we save a few thousand languages.../...Eishhhh agora tenho que ahhh.../...a few but can we save...nós podemos...nós podemos save guardar a few thousand languages humm ok ... a few thousand languages... agora esse a few?!/ So quer me complicar...../.../CS to determine meaning/resolve conflictuos info/ask oneself [third time reader has doubts with a few]...muitas ok thousand ok muitas de centenas de línguas just like that?/...muitas mas esse a few sera que é muitas mesmo? [questions his understanding of a few again]...muitas ou poucas./ Tenho problemas...la quando tinha a few speakers significava poucas mas ahhh poucos falantes ok [realizaes meaning] ...centenas de línguas...just like that?/ ...But can we save a few thousand languages, just like that?/ Será que podemos salvar poucas thousands thousands poucas...será que podemos salvar poucas milhares de línguas dessa maneira yes...if the will and funding were available, the will?/...esse will será que will aquele de I will go?/ Nao nao podia estar conjugado com esse funding will, my willing his to go...ok o meu desejo...entao esse will...se o desejo.../ok if the will and funding...se o desejo e o financiamento fossem providenciados...se fossem available available significa o que, significa se existissem...[reads text loud].../It is not cheap, getting linguists into the

field, training local analysts, suporting the community with languages resources and teachers, ok... compiling grammars and dicionaries, writing materials for use in schools. / Yah faz sentido nao é it is not cheap nao é facil levar os linguists into the field, training local analysts, treinar...treinar?/ ...training deve ser preparar, treinar ou ensinar, preparar local analysts entao esses analistas locais devem ser pessoas que conhecem a lingua mas não são, não sejam pessoas que aprenderam a lingua porque nós não tivemos linguistas aqui...linguists are pessoas especialistas, mas local analysts são analistas locais...o que é isso exatamente em Portugues?/ Devem ser pessoas que conhecem a lingua, pessoas falantes locais, deve ser isso...ok...[reads text]...it takes time lots of it, lots of it lots of it, o que é isso?/ It takes significa leva tempo agora lots of it muitos dele, será isso?/...lots of it, lots of it lots of it...muito disso ou mais que isso, ok [entao esse lado aqui...tenho que voltar para la: alluding to turning sheet to next page]... it takes time, lots of it to revitalize na endangered language ok it takes time, lots of it leva tempo muito disso, muito uma coisa que está há mais não é onde esá muito disso, mais que isso...hummm leva tempo lots of it muito disso ou mais que isso?/ Deve ser isso para revitalizar uma lingua que está em perigo.../[continues reading]...Conditions vary [struggles with pronunciation] so much that it is difficut to generalise, but a figure of hummm condições variam so much variam tanto that it torna dificil generalizar mas... but a figure of ...ok mas um valor, but a figure... esse figure aqui significa figura?/ Mas tem dinheiro aqui a hundred thousand but a figure of \$100000 pounds...acho que é pounds [misreads dollar currency] ou metical, acho que significa meticais. [misjudges currency as local Mozambique]...a figure of ...figure...significa o quê? /Figura?/ Não mais um valor acho um valor de 100 mil euros. [now currency is euro corrects to meticais MZM] metical per year per language can not be far from the truth...ahh não pode não está longe da verdade!/...if we devoted that amount of effort over three years for each of 3000 languages...devoted devoted...if we devoted devoted acho está no passado. [tense] se nós devoted that amout uma quantia e effort...uma quantia de esforço...effort?/ /Esforço deve ser isso acho que sim...over three years for each of the 3000 languages...entao condicionamos uma quantia uma medida e se digo quantia é uma coisa contada... entao uma coisa que se pode contar entao significa uma quantia esforço.../...agora esse effort deve ser esforço e não pode ser contável um amount quantia é contável, mas também pode não ser contável quando se é uma quantia de esforço acho que pode se dizer uma quantia de esforço de cerca de três almas para cada três mil línguas.../...we would be talking about some 900 million meticais, ok... / (CS/T to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions/ask oneself questions)

221. /...[reads next para] ... There are some famous cases which illustrate waht can be done./... Welsh, welsh o que é Welsh?/ Welsh alone...é melhor ler com o conteúdo para entender e voltar ao Welsh para saber o que significa o Welsh, porque assim posso nao conseguir uma boa maneira de enteder Welsh sozinho, porque...../(CS/T to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions) [decides to use contexto; reads texto at slow pace] ... Welsh alone among the Cetic languages is not only stopping its steady decline towards extinction but showing signs of real growth.../ entao Welsh significa uma lingua de algum sitio...mas de onde?/ Agora nao é de Celtic...não vem mas eu já vi Celtic Celtic...vi onde isso?/ Ahh ok welsh ok é melhor eu continuar porque tenho aqui uma coisa que me está puxar para o significado...../(CS to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions) [almost realizaes meaning; has an idea but wants to confirm with more text content][reads text] / ...Two Language Acts protect...ahhh Two language Acts protect the status of Welsh now, and its presence is increasing in evidence wherever you travel in Wales...ahh welsh é uma língua de Wales, então Celtic tambem..among the Celtic languages...deve ser também uma língua que está a surgir la

no Wales... que está a lutar com esta Welsh... e então significa que as pessoas de Wales falam Welsh... agora do Celtic não não tenho bem bem / [alluding to not having notion of Celtic languages]... (CS to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions/ask oneself questions)

222. / [reads next paragraph aloud]... On the other side of the world, Maori in New Zealand...ok. Maori é também uma língua de New Zealand (CS to determine meaning/ask oneself questions) /...has been maintained by a system of so-called 'language nests'...hummm!!!/ O que é isso?/ (CS to determine meaning/resolve conflictuos info/ /ask oneself questions) ...[re-reads part]...has been maintained by a system of so-called 'language nests'...então significa que este Maori na Nova Zelandia tem sido mantida pelo sistema de so-called language nests.../...language nests, nest é um ninho...nest é um ninho...línguas de ninho o que significa isso?/ Um sistema de ...o chamado sistema de línguas de ninho, talvez geira dizer o chamado sistema de línguas de arquivo, talvez seja isso...arquivo...nest nest é um ninho o passaro guarda os seus ovos la entao está arquivar...entao dai o chamado sistema de línguas de arquivo...deve ser as línguas que conservam sei lá... (CS to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions/ask oneself questions) / [reader does not complete his analysis]...first introduced in 1982...entao é isso aí...introduzidas em 82 pela primeira vez... (CS/T to determine meaning/resolve conflictuos info/ confirming predictions)...these are organization which provide children under five with a domestic setting in which they are intensively exposed to the language hummm!!!/ These are organizations...essas são organizações para para que providenciam a crianças dos seus cinco anos as as domestic settings[x2] que são iniciações[= alluding to initiation rites]...quer dizer iniciações?/ Iniciações domesticas? Domestic settings, definições eu vejo esse settings no telefone e quer dizer definições entao deve ser definições domesticas ou são bases iniciais nesse caso bases iniciais in which they are intensively exposed entao sobre as quais são expostas intensivamente na língua?/... (CS/T to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions/ask oneself questions)...ok...the staff are all Maori speakers from the local community...staff, staff tem essa palavra staff na empresa, staff significa o pessoal...entao significa staff are all Maori speakers deve significar que as pessoas que tem esse trabalho de expor as crianças nessa lingua err...nesses domestic settings são os falantes de Maori from the local community que vem da comunidade... (CS to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)/...the hope is that children will keep their Maori skills alive after leaving the nests... ok entao há esperança de que as crianças possam continuar com esta língua que é Maori locais skills as capacidades de fala Maori vivas depois de saírem daqueles settings so-called language nests chamados linguas de arquivo, acho que isso yah yah (CS to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)/ ...there are cases like ...será que saltei [checks whether is lost in text] (CS to ask oneself questions)/...as they grow older they will in turn become role models to a new generation of young children... entao role role...becoming role...será que quando crescerem vão se tornar um rolo modelo [wrong cognate/translation by sound]...role models deve ser isso um modelo modelo para as novas gerações of young children ok das novas gerações das crianças que vem... (CS to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)/ [continues reading] there are cases likes all over the world... ok!.../ and when the reviving language is associated with a degree of political autonomy...hummm!!!/ and when the reviving language is society ...associated with a degree of political autonomy...quando a língua a revitalização deve ser isso o reaviver da língua é associado com o degree of political autonomy... ok... quando é associado ao grau da autonomia política humm humm the growth can be especially striking [mispronounced] (CS to determine meaning/resolve conflictuos

info/predicting or guessing meaning/confirming predictions/)....especially striking as shown by Faroese, spoken in Faroe Islands after the islanders received a measure of autonomy from Denmark.../.....striking?! [mispronounced]/...ok voltando então significa que quando estiver no grau de autonomia política esse crescimento pode estar em problemas striking ...pode estar em causa como é mostrado pelos Faroeses, como a língua falada nas Ilhas Faroe depois que after the Islanders depois de os Islandeses [confusion with Iceland native ou just made up word from Islanders] ..os Irlandeses. é isso?!...terem recebido err err a measure of autonomy from Denmark se tivessem receberam a medida de a medida autónoma de Dinamarca.../(CS/T to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)

223. / [moves to next para and reads aloud] ...In Switzerland, Romansch...Switzerland o que é Switzerland? (CS to determine meaning/ask oneself questions)/ No futebol tenho lido Switzerland...deve ser Suíça isto aqui... em Suíça Ramanche (phonography) ...Romansch deve ser uma língua da Suíça diz tudo...já que estamos a falar de línguas essa é uma língua Sueca Sueca é Suíça...Suecia Suíça...yah tem Suecia tem Switzerland estes países!/ Deve ser Suíça...romansch deve ser uma língua de lá... (CS to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions/ask oneself questions)/.... was facing a difficult situation spoken in five diferente dialects, ahh ok então tinha cinco dialectos a mesma língua with small and diminishing numbers...(CS to determine meaning/confirming predictions)/....small and diminishing numbers com números pequenos diminutivos isto porque a sua população jovem...small humm!// O quer dizer isso?/ (CS to determine meaning/resolve conflictuos info/ask oneself questions)...Small and diminishing numbers diminishing numbers são números diminutivos small poucos e números diminutivos, alias números poucos e diminutivos porque essa ligação small and diminishing esse nbers deve ser associado a small e diminishing então numbers vem depois [collocation] então com números pequenos e diminutivos as young people left for work in German-speaking cities.../ahahmm...isso aconteceu porque a sua população as young people left ahh a sua população...espera aí as young people left their communities for work ok então as novas pessoas as jovens nesses caso os jovens as young people left os jovens deixaram a comunidade e foram para German speaking cities ahh cidades onde falam German...onde falam linguagem...língua germânica...acho que é isso... (CS/T to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions/ask oneself questions)/... the solution here was the creation of in the 1980s of a United unified written language for all these dialects.../ok então a solução foi a criação nos anos 1980 da de uma língua unificada of the unified written language.../ hum...hum como que temos o acordo ortográfico [brings exogenous facts to text]...então tiveram um acordo ortográfico para todos aqueles dialectos...então essa é que foi a solução...Romansch Grischum as it is now called.../ok agora já mudou de nome.../...has official status in parts of Switzerland and its being increasingly used in spoken form n radio and television...hum!!!/ Ok esse Romansch Grischum já tem um estatuto oficial sendo falado na Suíça e está sendo crescentemente usado na in spoken form ahh ok na língua falada quer dizer na fala na rádio e televisão usa-se mais essa ...ok/ (CS/T to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions/ask oneself questions)

224. /...[reads next para] .. A language can be brought from the very brink of extinction hum!!!/ A língua pode ser brought back significa ...esse não é um frasal verb bring back brought back [tense conjugation] ...fazer voltar pode ser é isso pode ser feita voltar de from the very brink of extinction brink brink brink brink [varied pitches] o que significa brink?/ O piscar o piscar o que? /Será que é blink?/ Não blink não é...brink brink estou a associar isso a uma faísca deve ser isso ou pelo menos significa uma faísca latente uma faísca que aconteceu uma faísca visível mas possível de

solucionar deve ser isso...[reader total lost on meaning: lack of decision to use a dictionary] /...brink mas não tenho a palavra verdadeira de brink e precisaria de um dicionário para consultar o significado mas pelo contexto acho que deve ser isso não não etária muito errado (CS/T to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions/ask oneself questions) [admits need of dictionary but relies on context and assumes he is not totally wrong]/ The Ainu language of Japan humhum Ainu é uma língua do Japão...after many years of neglect and repression...neglect significa que esta língua foi rejeitada e repressão [made up word] ok/... neglect, neglect if someone is neglected for exemple someone comes from jail first people can neglect him and can receive him as a reject person, not well accepted...então esta língua foi uma língua não aceitável e repression neglect and repression (CS to determine meaning/ confirming predictions)...many years of neglect and repression had reached a stage where they were only eight fluent speakers left all elderly err err é isso!/...reached a stage where they were only eight fluent speakers.... então isto significa que houve um desenvolvimento então este neglect deve significar isso mesmo esteve na injeção. [???]. esteve num desprezo e entao atingiu um estagio em que havia apenas 8 falantes fluentes em ahhh ok(CS to determine meaningconfirming predictions)/... and reached a stage where they were only [raised tone] eight fluent speakers err ahh ok por ser negligenciada por ser desprizível foi conseguiram até chegar num estágio desses só haver 8 pessoas fluentes ok que tinham ficado apenas e essas pessoas eram apenas elderly and ok and all...elderly esta palavra vem de old.../...deve ser que ficaram pessoas velhas so se estava a falar de fluente speakers left all elderly entao devem ser todos velhos! (CS/T to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)/ However, new government policies brought fresh attitudes in the survival... hummhum ok new government policies ok novas politicas governamentais brought fresh attitudes...fresh eiissshh!/.... Fresh de fresco brought fresh attitudes para significar que trouxe novas atitudes veio com novas atitudes humm trouxe novas atitudes and positive e um interesse de fazer com as línguas sejam revividas...several semi-speakers o que é um semi-speaker?/. Ok é melhor eu continuar(CS/T to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions/ask oneself questions)...people who had become unwilling to speak Ainu ok several semi-speakers... um semi-speaker deve ser a pessoa que esteve balanceada...pessoa que como acontece agora mesmo como os Marongas não ensinam a lingua deles e so falam português e acontece que já pessoas que há crianças que não conhecem a lingua materna so conhecem o Portugues [compares Ainu situation with local situation in country:own environment]/... então deve ser este caso aqui(CS to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions) Ainu...unwilling to speak Ainu because of the negative attitudes by Japanese speakers.../...ahhh deve ser isso hummhum(CS confirming predictions) /...were prompted to became active speakers again... prompted [x3] tenho visto essa palavra no computador prompting the computer is prompting está a puxar prompting puxar buscando buscando alguma coisa entao hade significar foram chamados...tornarem-se ou foram treinados...so posso encontrar uma palavra equivalente mas não essa aqui prompted não tenho o significado verdadeiro mas vai pra lá o conteúdo prompted posso dizer que foram aconselhados ou foram chamados `a ou foram treinados a si tornarem Ainus err falantes activos mais uma vez, não é...(CS to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions/ask oneself questions)/...There is fresh interest now and the language is more publicly available than it has been for years.../...entao há um novo interesse agora as línguas estao more mais publicitadas estão publicamente humm! /...now and the language is more publicly available than e a língua está errr

errr publicamente existe publicamente agora do anos atras ok.../(CS/T to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions/ask oneself questions)

225. /([moves to next paragraph]...If good descriptions and materials are available even extinct languages ok ok/... If good descriptions and materials are available even extinct languages can be res... res...resurrected ahh resurrected deve significar resu resu...deve vir de ressurreição então significa que há ...if good descriptions que boas descrições e materiais e são são... existem mesmo as línguas em extinção podem ser recuperadas... (use of cognate)/...não vai ser ressurgir porque é claro que estamos a falar de morrer mas não é morrer de vida do humano que é pode ressurgir mas podem ser recuperadas.../ (CS/T resolve conflictuos info/predicting or guessing meaning/confirming predictions)
226. /...Kurna from South Australia is an exemple...entao é um exemplo acho que foi recuperado...(CS to determine meanin /confirming predictions)/...this language had been extinct for about a century... entao tinha sido tinha desaparecido por cerca de um século....but had been quite well-documented entao tinha sido quase bem documentado...então...já [imperceptible]... (CS to determine meaning/resolve conflictuos info/ confirming predictions)/...when a strong movement grew for its revival it was possible to reconstruct it so when a strong movement grew for its revival só então when a strong movement grew for its revival ok when a strong forte movement grew cresceu more revival se um grande movimento cresceu para a sua revitalização... it was possible to reconstruct it/... ahh então foi ok entao foi possível reconstituir quando o movimento cresceu ok the revised language is not the same as the original of course eu também diria a mesma coisa claro uma lingua que foi revisitada não pode ser a mesma igual a original...(CS/T to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions/ask oneself questions)/...it lacks the range that the original had...range o que é isso de range?/. Entao mas lacks significa falta de perde... it lacks the range perde perde o que?/. Perde a postura?/... range deve ser postura da original had acho que sim.../... perde a postura que a lingua original teve.../...much of the old vocabulary então o vocabulário antigo perde-se but it can nonetheless act as a badge badge humm!?!/... mas mas but it can nonetheless mas pode apesar disso actuar como...???/ ok é melhor continuar [decides to continue and use context]act as a badge essa palavra badge as a badge of present-day identity for its people ahhh ok badge acho que deve ser uma emenda...pode agir como uma emenda [wrong meaning, equivalente/cognate] para a identidade ou uma marca isso mesmo pode se reter algo que vai funcionar como uma marca para a identidade da população actual.../... com certeza como temos os neologismos e [imperceptible] que são marcas do povo actual metemos algumas palavras na nossa lingua mas que tem a ver com a maneira de falar de agora...com certeza...(CS/T to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions/ask oneself questions)/...and as long as people continue to value it ...ok/ [reads at slow pace]...and as long as people continue to value it as a true marker of their identity, and are prepared to to keep using it, it will develop new functions and new vocabular, as any other living language would do...hum/...essa passage aqui.../[re-reads] (CS to determine meaning/resolve conflictuos info/predicting or guessing meaning) ...and as long as people continue to value it as a true marker of their identity.../...então conforme eu tinha dito la, badge que vai ser uma marca de agora então quer dizer se as pessoas continuarem contuam a valorizar como marca da sua identidade and are prepared to to keep using it...e estão prearados a usar a usa-la essa marca então it will...vai desenvolver novas funções e um vocabulário como novas palavras fazem entao é o caso de neologismo e sei la.../(CS/T to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)

227. /([moves to last paragraph]...It is too soon to predict the future of these revived languages.../hummm it is too soon... é muito cedo prever ok prever [invented word] prever o futuro dessas línguas revividas (CS to determine meaning/predicting or guessing meaning/confirming predictions)... but in some parts of the world they are attracting precisely the range of positive attitudes and grass roots *hiii é muita coisa* [considers congested info and decides to re-read slowly]/...but in some parts of the world they are attracting precisely the range of positive attitudes.../...então mas nas algumas partes do mundo eles estão precisamente a atrair the range of positive attitudes então uma gama de atitudes positivas não é?/ É isso um agama de atitudes positivas and grass roots grass [x4] tem a ver com capim verde...roots [x4] ehh o que são roots?/ Grassroots roots já não está a vir [does not recall meaning/cognate]/ ...bom mas ok o conteúdo [moves to use context]...and grass roots support which are the preconditions for language survival...então grassroots deve ser supports [reader realizes meaning] mas já tem lá a palavra suporte grass roots support deve suporte mesmo... [Portuguese lexical item] (CS/T to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions/ask oneself questions)...support which are the preconditions que são as condições para o reavivar para o reativamento de uma língua... (CS to determine meaning/ confirming predictions)/...but in such unexpected and heart-warming ways humm [repeats] but in such unexpected and heart-warming ways... such unexpected o que isso quer dizer?/ Não estás err errr esperados mas heart-warming warming warming é de aviso [reader confuses **warming** with **warning**] bem é aviso com o coração...então heart-warming ways o que isso quer dizer?/... heart-warming ways tenho que jogar estas palavras...warming significa aviso, cuidado, chamada de atenção...heart então é chamada de atenção do coração, nesse caso mas esta expressão não significaria isso! melhor eu ler de novo... [decides to re-read] /...but in such unexpected and heart-warming ways...não está inesperado humm errrr...mas são meios de chamada de atenção de algo talvez seja isso! (CS/T to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions/ask oneself questions)/...might we see the grand total of languages in the world minimally increased hummm might podíamos ver the grand esse grand aqui já não sei esse grand é confuso confusão porque não pode ser grande...grand grand em Inglês o que significa isso, grand?/ Grand grand nunca vi esta palavra [recognizes new word] grand [x6] puxando no texto, dicionário já li nunca vi essa palavra grand total languages might we see ok há única maneira que eu tenho é saltar essa palavra e poderia procurar no dicionário mas vou saltar e ir directamente no conteúdo/...grand total of languages meaning total of languages in the world minimally increased então uma quantidade total de línguas no mundo mnimamente acrescidos, deve ser isso deve ser isso...ok/ (CS/T to determine meaning/resolve conflictuos info/predicting or guessing meaning/confirming predictions)
228. /...o texto continua...hummm [participant reads instructions on answer sheet x2 and understand the gist of exercise and re-reads and refers to Reading the texto and understanding it very well and recall facts and decides to understandi each statement... translates and decides on choices and his aware of only three choices needed].../ (CS to determine meaning)

ANNEX K Student Reading Comprehension test

Reading module (1 hour)

READING
PASSAGE 1

You should spend about 20 minutes on Questions 1–13 which are based on Reading Passage 1 below.

Indoor Pollution

Since the early eighties we have been only too aware of the devastating effects of large-scale environmental pollution. Such pollution is generally the result of poor government planning in many developing nations or the short-sighted, selfish policies of the already industrialised countries which encourage a minority of the world's population to squander the majority of its natural resources.

While events such as the deforestation of the Amazon jungle or the nuclear disaster in Chernobyl continue to receive high media exposure, as do acts of environmental sabotage, it must be remembered that not all pollution is on this grand scale. A large proportion of the world's pollution has its source much closer to home. The recent spillage of crude oil from an oil tanker accidentally discharging its cargo straight into Sydney Harbour not only caused serious damage to the harbour foreshores but also created severely toxic fumes which hung over the suburbs for days and left the angry residents wondering how such a disaster could have been allowed to happen.

Avoiding pollution can be a full-time job. Try not to inhale traffic fumes; keep away from chemical plants and building-sites; wear a mask when cycling. It is enough to make you want to stay at home. But that, according to a growing body of scientific evidence, would also be a bad idea. Research shows that levels of pollutants such as hazardous gases, particulate matter and other chemical 'nasties' are usually higher indoors than out, even in the most

polluted cities. Since the average American spends 18 hours indoors for every hour outside, it looks as though many environmentalists may be attacking the wrong target.

The latest study, conducted by two environmental engineers, Richard Corsi and Cynthia Howard-Reed, of the University of Texas in Austin, and published in *Environmental Science and Technology*, suggests that it is the process of keeping clean that may be making indoor pollution worse. The researchers found that baths, showers, dishwashers and washing machines can all be significant sources of indoor pollution, because they extract trace amounts of chemicals from the water that they use and transfer them to the air.

Nearly all public water supplies contain very low concentrations of toxic chemicals, most of



them left over from the otherwise beneficial process of chlorination. Dr. Corsi wondered whether they stay there when water is used, or whether they end up in the air that people breathe. The team conducted a series of experiments in which known quantities of five such chemicals were mixed with water and passed through a dishwasher, a washing machine, a shower head inside a shower stall or a tap in a bath, all inside a specially designed chamber. The levels of chemicals in the effluent water and in the air extracted from the chamber were then measured to see how much of each chemical had been transferred from the water into the air.

The degree to which the most volatile elements could be removed from the water, a process known as chemical stripping, depended on a wide range of factors, including the volatility of the chemical, the temperature of the water and the surface area available for transfer. Dishwashers were found to be particularly effective: the high-temperature spray, splashing against the crockery and cutlery, results in a nasty plume of toxic chemicals that escapes when the door is opened at the end of the cycle.

In fact, in many cases, the degree of exposure to toxic chemicals in tap water by inhalation is comparable to the exposure that would result from drinking the stuff. This is significant because many people are so concerned about water-borne pollutants that they drink only bottled water, worldwide sales of which are forecast to reach \$72 billion by next year. D. Corsi's results suggest that

they are being exposed to such pollutants anyway simply by breathing at home.

The aim of such research is not, however, to encourage the use of gas masks when unloading the washing. Instead, it is to bring a sense of perspective to the debate about pollution. According to Dr Corsi, disproportionate effort is wasted campaigning against certain forms of outdoor pollution, when there is as much or more cause for concern indoors, right under people's noses.

Using gas cookers or burning candles, for example, both result in indoor levels of carbon monoxide and particulate matter that are just as high as those to be found outside, amid heavy traffic. Overcrowded classrooms whose ventilation systems were designed for smaller numbers of children frequently contain levels of carbon dioxide that would be regarded as unacceptable on board a submarine. 'New car smell' is the result of high levels of toxic chemicals, not cleanliness. Laser printers, computers, carpets and paints all contribute to the noxious indoor mix.

The implications of indoor pollution for health are unclear. But before worrying about the problems caused by large-scale industry, it makes sense to consider the small-scale pollution at home and welcome international debate about this. Scientists investigating indoor pollution will gather next month in Edinburgh at the Indoor Air conference to discuss the problem. Perhaps unwisely, the meeting is being held indoors.

Questions 1–6

Choose the appropriate letters A–D and write them in boxes 1–6 on your answer sheet.

- 1 In the first paragraph, the writer argues that pollution
 - A has increased since the eighties.
 - B is at its worst in industrialised countries.
 - ☒ C results from poor relations between nations.
 - D is caused by human self-interest.

- 2 The Sydney Harbour oil spill was the result of a
 - A ship refuelling in the harbour.
 - B tanker pumping oil into the sea.
 - C collision between two oil tankers.
 - D deliberate act of sabotage.

- 3 In the 3rd paragraph the writer suggests that
 - A people should avoid working in cities.
 - B Americans spend too little time outdoors.
 - C hazardous gases are concentrated in industrial suburbs.
 - D there are several ways to avoid city pollution.

- 4 The Corsi research team hypothesised that
 - A toxic chemicals can pass from air to water.
 - B pollution is caused by dishwashers and baths.
 - C city water contains insufficient chlorine.
 - D household appliances are poorly designed.

- 5 As a result of their experiments, Dr Corsi's team found that
 - A dishwashers are very efficient machines.
 - B tap water is as polluted as bottled water.
 - C indoor pollution rivals outdoor pollution.
 - D gas masks are a useful protective device.

- 6 Regarding the dangers of pollution, the writer believes that
 - A there is a need for rational discussion.
 - B indoor pollution is a recent phenomenon.
 - C people should worry most about their work environment.
 - D industrial pollution causes specific diseases.

Questions 7–13

Reading Passage 1 describes a number of cause and effect relationships. Match each Cause (Questions 7–13) in List A with its Effect (A–J) in List B.

Write the appropriate letters (A–J) in boxes 7–13 on your answer sheet.

List A: CAUSES

- 7 Industrialised nations use a lot of energy.
- 8 Oil spills into the sea.
- 9 The researchers publish their findings.
- 10 Water is brought to a high temperature.
- 11 People fear pollutants in tap water.
- 12 Air conditioning systems are inadequate.
- 13 Toxic chemicals are abundant in new cars.

List B: EFFECTS

- A The focus of pollution moves to the home.
- B The levels of carbon monoxide rise.
- C The world's natural resources are unequally shared.
- D People demand an explanation.
- E Environmentalists look elsewhere for an explanation.
- F Chemicals are effectively stripped from the water.
- G A clean odour is produced.
- H Sales of bottled water increase.
- I The levels of carbon dioxide rise.
- J The chlorine content of drinking water increased.

**READING
PASSAGE 2**

You should spend about 20 minutes on *Questions 14–27* which are based on Reading Passage 2 below.

Questions 14–19

Reading Passage 2 has seven paragraphs *A–G*.

From the list of headings below choose the most suitable heading for each paragraph.

Write the appropriate numbers (i–x) in boxes 14–19 on your answer sheet.

List of headings

- i Some success has resulted from observing how the brain functions.
- ii Are we expecting too much from one robot?
- iii Scientists are examining the humanistic possibilities.
- iv There are judgements that robots cannot make.
- v Has the power of robots become too great?
- vi Human skills have been heightened with the help of robotics.
- vii There are some things we prefer the brain to control.
- viii Robots have quietly infiltrated our lives.
- ix Original predictions have been revised.
- x Another approach meets the same result.

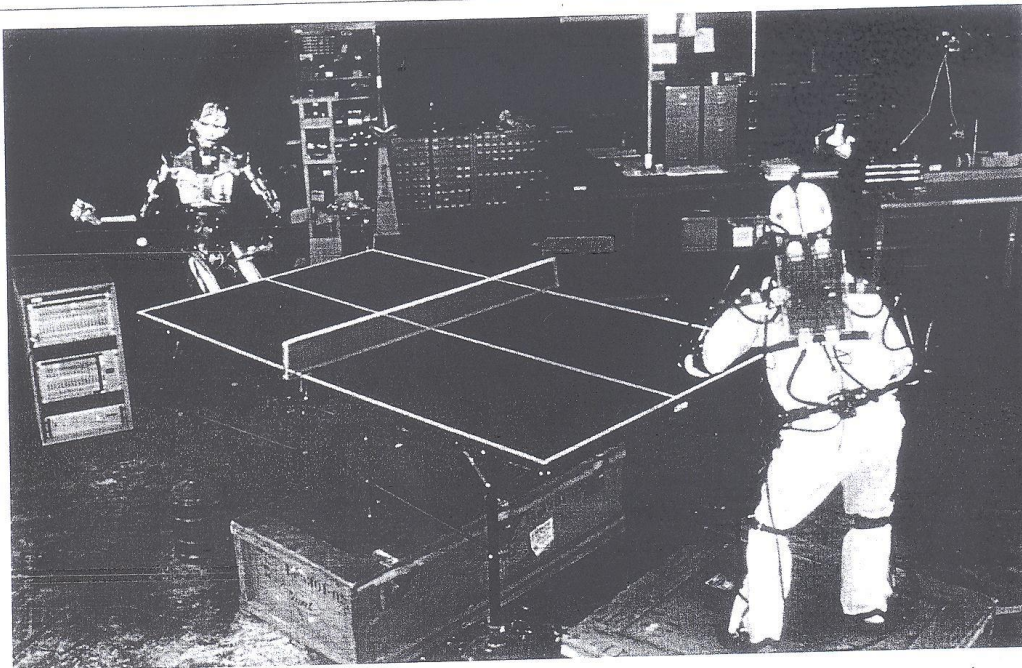
- 14 Paragraph A
- 15 Paragraph B
- 16 Paragraph C
- 17 Paragraph D
- 18 Paragraph E
- 19 Paragraph F

Example

Paragraph G

Answer

ii



ROBOTS

Since the dawn of human ingenuity, people have devised ever more cunning tools to cope with work that is dangerous, boring, onerous, or just plain nasty. That compulsion has culminated in robotics – the science of conferring various human capabilities on machines

A The modern world is increasingly populated by quasi-intelligent gizmos whose presence we barely notice but whose creeping ubiquity has removed much human drudgery. Our factories hum to the rhythm of robot assembly arms. Our banking is done at automated teller terminals that thank us with rote politeness for the transaction. Our subway trains are controlled by tireless robo-drivers. Our mine shafts are dug by automated moles, and our nuclear accidents – such as those at Three Mile Island and Chernobyl – are cleaned up by robotic muckers fit to withstand radiation.

Such is the scope of uses envisioned by Karel Capek, the Czech playwright who coined the term 'robot' in 1920 (the word 'robota' means 'forced labor' in Czech). As progress accelerates, the experimental becomes the exploitable at record pace.

B Other innovations promise to extend the abilities of human operators. Thanks to the incessant miniaturisation of electronics and micro-mechanics, there are already robot systems that can perform some kinds of brain and bone surgery with submillimeter accuracy – far greater precision than highly skilled physicians can achieve with their hands alone. At the same time, techniques of long-distance control will keep people even farther from hazard. In 1994 a ten-foot-tall NASA robotic explorer called Dante, with video-camera eyes and with spiderlike legs, scrambled over the menacing rim of an Alaskan volcano while technicians 2,000 miles away in California watched the scene by satellite and controlled Dante's descent.

C But if robots are to reach the next stage of labour-saving utility, they will have to operate with less human supervision and be able to

make at least a few decisions for themselves – goals that pose a formidable challenge. 'While we know how to tell a robot to handle a specific error,' says one expert, 'we can't yet give a robot enough common sense to reliably interact with a dynamic world.' Indeed the quest for true artificial intelligence (AI) has produced very mixed results. Despite a spasm of initial optimism in the 1960s and 1970s, when it appeared that transistor circuits and microprocessors might be able to perform in the same way as the human brain by the 21st century, researchers lately have extended their forecasts by decades if not centuries.

D What they found, in attempting to model thought, is that the human brain's roughly one hundred billion neurons are much more talented – and human perception far more complicated – than previously imagined. They have built robots that can recognise the misalignment of a machine panel by a fraction of a millimeter in a controlled factory environment. But the human mind can glimpse a rapidly changing scene and immediately disregard the 98 per cent that is irrelevant, instantaneously focusing on the woodchuck at the side of a winding forest road or the single suspicious face in a tumultuous crowd. The most advanced computer systems on Earth can't approach that kind of ability, and neuroscientists still don't know quite how we do it.

E Nonetheless, as information theorists, neuroscientists, and computer experts pool their talents, they are finding ways to get some lifelike intelligence from robots. One method renounces the linear, logical structure of conventional electronic circuits in favour of the messy, ad hoc arrangement of a real brain's neurons. These 'neural networks' do not have to be programmed. They can 'teach' themselves by a system of feedback signals that reinforce electrical pathways that produced correct responses and, conversely, wipe out connections that produced errors. Eventually the net wires itself into a system that can pronounce certain words or distinguish certain shapes.

F In other areas researchers are struggling to fashion a more natural relationship between people and robots in the expectation that some day machines will take on some tasks now done by humans in, say, nursing homes. This is particularly important in Japan, where the percentage of elderly citizens is rapidly increasing. So experiments at the Science University of Tokyo have created a 'face robot' – a life-size, soft plastic model of a female head with a video camera imbedded in the left eye – as a prototype. The researchers' goal is to create robots that people feel comfortable around. They are concentrating on the face because they believe facial expressions are the most important way to transfer emotional messages. We read those messages by interpreting expressions to decide whether a person is happy, frightened, angry, or nervous. Thus the Japanese robot is designed to detect emotions in the person it is 'looking at' by sensing changes in the spatial arrangement of the person's eyes, nose, eyebrows, and mouth. It compares those configurations with a database of standard facial expressions and guesses the emotion. The robot then uses an ensemble of tiny pressure pads to adjust its plastic face into an appropriate emotional response.

G Other labs are taking a different approach, one that doesn't try to mimic human intelligence or emotions. Just as computer design has moved away from one central mainframe in favour of myriad individual workstations – and single processors have been replaced by arrays of smaller units that break a big problem into parts that are solved simultaneously – many experts are now investigating whether swarms of semi-smart robots can generate a collective intelligence that is greater than the sum of its parts. That's what beehives and ant colonies do, and several teams are betting that legions of mini-critters working together like an ant colony could be sent to explore the climate of planets or to inspect pipes in dangerous industrial situations.

Questions 20–24

Do the following statements agree with the information given in Reading Passage 2?

In boxes 20–24 on your answer sheet write

YES if the statement agrees with the information
NO if the statement contradicts the information
NOT GIVEN if there is no information on this in the passage

- 20 Karel Capek successfully predicted our current uses for robots.
- 21 Lives were saved by the NASA robot, Dante.
- 22 Robots are able to make fine visual judgements.
- 23 The internal workings of the brain can be replicated by robots.
- 24 The Japanese have the most advanced robot systems.

Questions 25–27

Complete the summary below with words taken from paragraph F.

*Use **NO MORE THAN THREE WORDS** for each answer.*

Write your answers in boxes 25–27 on your answer sheet.

The prototype of the Japanese 'face robot' observes humans through a ... 25 ... which is planted in its head. It then refers to a ... 26 ... of typical 'looks' that the human face can have, to decide what emotion the person is feeling. To respond to this expression, the robot alters its own expression using a number of ... 27

SAVING LANGUAGE

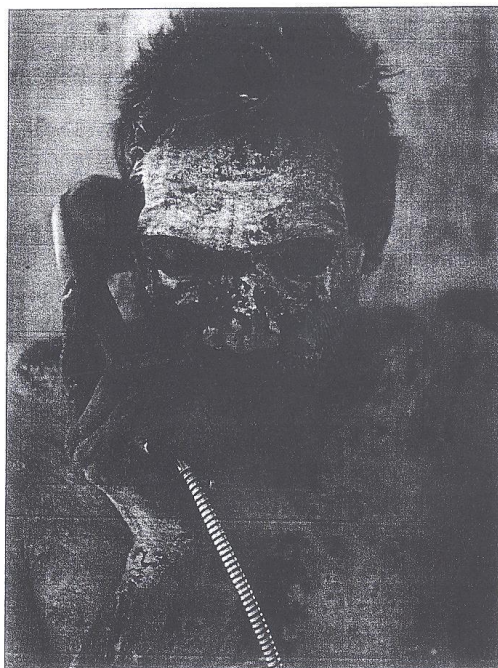
For the first time, linguists have put a price on language. To save a language from extinction isn't cheap – but more and more people are arguing that the alternative is the death of communities

There is nothing unusual about a single language dying. Communities have come and gone throughout history, and with them their language. But what is happening today is extraordinary, judged by the standards of the past. It is language extinction on a massive scale. According to the best estimates, there are some 6,000 languages in the world. Of these, about half are going to die out in the course of the next century: that's 3,000 languages in 1,200 months. On average, there is a language dying out somewhere in the world every two weeks or so.

How do we know? In the course of the past two or three decades, linguists all over the world have been gathering comparative data. If they find a language with just a few speakers left, and nobody is bothering to pass the language on to the children, they conclude that language is bound to die out soon. And we have to draw the same conclusion if a language has less than 100 speakers. It is not likely to last very long. A 1999 survey shows that 97 per cent of the world's languages are spoken by just four per cent of the people.

It is too late to do anything to help many languages, where the speakers are too few or too old, and where the community is too busy just trying to survive to care about their language. But many languages are not in such a serious position. Often, where languages are seriously endangered, there are things that can be done to give new life to them. It is called revitalisation.

Once a community realises that its language is in danger, it can start to introduce measures which can genuinely revitalise. The community itself



must want to save its language. The culture of which it is a part must need to have a respect for minority languages. There needs to be funding, to support courses, materials, and teachers. And there need to be linguists, to get on with the basic task of putting the language down on paper. That's the bottom line: getting the language documented – recorded, analysed, written down. People must be able to read and write if they and their language are to have a future in an increasingly computer-literate civilisation.

But can we save a few thousand languages, just like that? Yes, if the will and funding were available. It is not cheap, getting linguists into the field, training local analysts, supporting the community with language resources and teachers, compiling grammars and dictionaries, writing materials for use in schools. It takes time, lots of it,

to revitalise an endangered language. Conditions vary so much that it is difficult to generalise, but a figure of \$100,000 a year per language cannot be far from the truth. If we devoted that amount of effort over three years for each of 3,000 languages, we would be talking about some \$900 million.

There are some famous cases which illustrate what can be done. Welsh, alone among the Celtic languages, is not only stopping its steady decline towards extinction but showing signs of real growth. Two Language Acts protect the status of Welsh now, and its presence is increasingly in evidence wherever you travel in Wales.

On the other side of the world, Maori in New Zealand has been maintained by a system of so-called 'language nests', first introduced in 1982. These are organisations which provide children under five with a domestic setting in which they are intensively exposed to the language. The staff are all Maori speakers from the local community. The hope is that the children will keep their Maori skills alive after leaving the nests, and that as they grow older they will in turn become role models to a new generation of young children. There are cases like this all over the world. And when the reviving language is associated with a degree of political autonomy, the growth can be especially striking, as shown by Faroese, spoken in the Faroe Islands, after the islanders received a measure of autonomy from Denmark.

In Switzerland, Romansch was facing a difficult situation, spoken in five very different dialects, with small and diminishing numbers, as young people left their community for work in the German-speaking cities. The solution here was the creation in the 1980s of a unified written language for all these dialects. Romansch Grischun, as it is now called, has official status in parts of

Switzerland, and is being increasingly used in spoken form on radio and television.

A language can be brought back from the very brink of extinction. The Ainu language of Japan, after many years of neglect and repression, had reached a stage where there were only eight fluent speakers left, all elderly. However, new government policies brought fresh attitudes and a positive interest in survival. Several 'semi-speakers' – people who had become unwilling to speak Ainu because of the negative attitudes by Japanese speakers – were prompted to become active speakers again. There is fresh interest now and the language is more publicly available than it has been for years.

If good descriptions and materials are available, even extinct languages can be resurrected. Kaurna, from South Australia, is an example. This language had been extinct for about a century, but had been quite well documented. So, when a strong movement grew for its revival, it was possible to reconstruct it. The revised language is not the same as the original, of course. It lacks the range that the original had, and much of the old vocabulary. But it can nonetheless act as a badge of present-day identity for its people. And as long as people continue to value it as a true marker of their identity, and are prepared to keep using it, it will develop new functions and new vocabulary, as any other living language would do.

It is too soon to predict the future of these revived languages, but in some parts of the world they are attracting precisely the range of positive attitudes and grass roots support which are the preconditions for language survival. In such unexpected but heart-warming ways might we see the grand total of languages in the world minimally increased.

Questions 28–32

Do the following statements agree with the views of the writer in Reading Passage 3?

In boxes 28–32 on your answer sheet write

YES if the statement agrees with the writer's views
NO if the statement contradicts the writer's views
NOT GIVEN if it is impossible to say what the writer thinks about this

- 28 The rate at which languages are becoming extinct has increased.
- 29 Research on the subject of language extinction began in the 1990s.
- 30 In order to survive, a language needs to be spoken by more than 100 people.
- 31 Certain parts of the world are more vulnerable than others to language extinction.
- 32 Saving language should be the major concern of any small community whose language is under threat.

Questions 33–35

The list below gives some of the factors that are necessary to assist the revitalisation of a language within a community.

*Which **THREE** of the factors are mentioned by the writer of the text?*

Write the appropriate letters A–G in boxes 33–35 on your answer sheet.

- A the existence of related languages
- B support from the indigenous population
- C books tracing the historical development of the language
- D on-the-spot help from language experts
- E a range of speakers of different ages
- F formal education procedures
- G a common purpose for which the language is required

Questions 36–40

Match the languages A–F with the statements below (Questions 36–40) which describe how a language was saved.

Write your answers in boxes 36–40 on your answer sheet.

Languages

A	Welsh	D	Romansch
B	Maori	E	Ainu
C	Faroese	F	Kaurna

- 36 The region in which the language was spoken gained increased independence.
- 37 People were encouraged to view the language with less prejudice.
- 38 Language immersion programmes were set up for sectors of the population.
- 39 A merger of different varieties of the language took place.
- 40 Written samples of the language permitted its revitalisation.

